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The Present Trend of Medical Economics*

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I wish to take this opportunity to express to the membership of the New Mexico Medical Society my sincere appreciation and thanks for the honor to serve as your President. The honor is one that I treasure and I trust that my work for organized medicine during my incumbency will be of such a nature as to prove in no uncertain way my deep and lasting gratitude. I am fully cognizant of the responsibilities attached to the office and will endeavor to carry out the aims and desires of the members to the best of my ability.

This society has shown a normal growth from year to year, and it is my hope that I can reach in some manner every one of the physicians in New Mexico who have not affiliated with our organization.

GOVERNMENT CONTROL

In earlier times the chief activities of a medical society were scientific and social. Today a different situation exists. Now the whole world seems involved in a maze of doubt, uncertainty, and dissatisfaction. Economically, politically, socially and scientifically, we are in a state of unrest. One of the major dangers facing medicine today is State control. For generations, physicians have been among the most independent of all professions. They controlled all their activities, solved their problems, and totally dominated the medical field. Today, political and economic forces are more and more encroaching on the field of medicine. A recent assumption is that supervision of public health is a proper state function and there is no indication as to how far this supervision may lead.

It is my hope that this session of the New Mexico Medical Society will result in some definite basic plans for the improvement of the status of the medical profession.

All of us realize that the science of medicine has progressed very rapidly in the last ten or fifteen years or more; that the technics of medical service have changed mightily. We are glad of these improvements and the way in which our New Mexico physicians have kept in the van of progress. But, do all of us apprehend clearly the changes in the practice of medicine, in the distribution of medical service to the people, these changes that are in operation now, and the revolutionary alterations and substitutions for medicine which are being loudly recommended and vigorously lobbied, in and out of the national capitol?

Before 1929, that sad year of inverse fortunes, the medical profession performed its priestly service to the poor, out of the largess of its bounty. The State was delighted to throw its burdens of medical service on the willing physicians. After that great financial squeeze play, the poor became too great in multitude and the multitude of physicians became so poor that the State was forced, reluctantly to be sure, to take over in part its responsibility of furnishing indigents with necessary medical care. To many physicians this represented the first great change in medical service, as they had overlooked, because it did not affect their private practices too closely, the socialization of medicine in the State care of the insane, the tuberculous and the crippled and the afflicted children.

Our own experience shows that Government, yes, that very same Government which boasted, "We planned it that way", has been remarkably penurious in providing medical care for those on the W.P.A. rolls, or the blind or dependent children or the decrepit recipients of old age assistance who above all others require generous amounts of medical service.

In the face of this deplorable situation, it is most startling and incongruous to read the plans of the various handsome young men in Washington, who are endeavoring to make their name and fame by concentrating their efforts on putting over a great new national health program, including public health work, hospital building and health insurance! "Absurd", you say? Not at all. These modern glamor boys are deadly serious in their emulation of Bismarck and Lloyd George, and therefore the whole scheme is dangerous—perilous to the health of the people and to the thread of Democracy in our land. The plan of socialized medicine known as Senator Wagner's National Health Program has not its roots in the democratic principles which have made this country great. The answer to the nation's health needs does not lie in a Fascistic philosophy which, like poison gas,

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spreads and injures and kills all and everything in its ever-widening path.

Ambition should not be fed on the health of our people. Further, Government must assume its rightful responsibility for the care of those on the welfare rolls, but there must be a line beyond which Government must not step without usurping personal responsibility.

MEDICAL CARE PLANS

No one but a hopeless idiot would argue that all is perfect in this best possible of worlds. Abuses there are, misery thrives along Park Avenue and Railroad Alley alike, tears flow in many a wretched home. Today, partly because of rapid methods of communication, people are more than ever aware of widespread dispair. But yesterday it was likewise present.

Many men and women with big hearts are devoting their lives in the service of their unhappier fellows. Various schemes are advanced for partial alleviation of the lot of the unfortunates. So many of these plans are launched with high hopes, sometimes on oceans of prayers. It is tragic to acknowledge that to date only failure has come to most of these moves for the betterment of man.

Schemes for the better distribution of competent medical care have of late occupied prominence in the public eye. Most of these have been based upon revolutionary concepts; many have subsequently foundered on this shoal. The ideal plan for medical help for all the population has not yet been conceived. Perhaps one day experimentation of the intelligent sort, free from acrimony, divorced from politics, may point the way. To date unbiased judgment must decide that the time-tried methods of private, individualized American medicine is far and away the best system yet devised. It isn't just coincidence that a free, untrammeled American system of medicine has, during the short life of this Republic, increased the life expectancy of its citizens from 35 to 62 years.

Experimentation in new forms of distributing medical services has been taking place for many years throughout the United States. Thus, today it is possible to find a large number of different types of medical plans operating under various organizations or agencies. There has never been an accurate and complete enumeration of these plans; it is known that there are in operation more than 75 group hospitilization plans, some 54 hospital insurance companies, about 20 flat rate hospital plans, at least 2,000 industrial medical care services, at least 500 medical and hospital benefit organizations, about 24 union sick benefit funds and fraternal plans operating on a nationwide basis, about 300 private group clinics, at least 300 college and university student health services and in at least 20 states an unknown number of plans designed to assist portions of low income farm families.

Each of these plans must have the participation of the medical profession. In addition the physicians themselves are operating more than 150 medical care plans and are considering the organization of approximately 120 more.

In many instances the medical profession has opposed some of the methods of providing medical service for the reason that experience has shown the impossibility of providing good and sufficient medical care under such arrangements. In other instances the proposals have met with prompt and wholehearted approval as representative of the most satisfactory methods thus far found to provide good medical care for the conditions or communities concerned.

The medical profession as represented by the 110,000 physicians who constitute the American Medical Association have never assumed a rigid or antagonistic attitude toward experimentation in the distribution of medical services when it could be shown that the services could be supplied satisfactorily under the proposed system without a deterioration of medical practice for all the people.

Compulsory sickness insurance, which has been adopted for a large proportion of the people of various foreign countries is no new proposal for the alleged protection of these people against the cost of illness. It was first proposed by Bismarck in 1883 and has since affected to some degree a large part of the civilized world. It may be significant that the great democracies have been the last to be attracted by the lure of sickness insurance or state managed medicine.

No advantage can be gained from criticism of a country for having adopted a system of state managed medicine, but a critical analysis of these systems should be helpful in determining whether such methods are preferable to the free and independent practice of medicine, such as that which exists in the United States.

After acknowledging all the advantages which may have accrued to the peoples of foreign countries from their present systems of state managed medicine, as compared with their previous methods of medical practice, the medical profession of the United States is unwilling to foster a system of compulsory sickness insurance because:

1. The accompanying complicated bureaucratic system has no place in a democratic state.
2. It would undoubtedly set up a far reaching tax system with great increase in the cost of government.
3. The burden of the system is distributed over the low income class, which is least able to bear it.
4. Diagnosis and treatment are mechanical and superficial.
5. Medical care for the indigent is omitted, and the problem of serious and prolonged illness is not solved.
6. The control over medical service is placed in the hands of unqualified non-medical individuals and organizations.
7. Such a system of medical care would lend itself to political control and manipulation.

The American Medical Association has never been unmindful of the necessity of constructive changes in the methods of organizing medical care or in the appropriate functions of the government in protecting the health of the people. At its first meeting in 1847 it urged the establishment of "state medicine", a term which was used at that time to describe what later became known as public health. The organized medical profession has always used its influence for the establishment and proper administration of state and local health departments. It has been more than sixty years since the American Medical Association first advocated the establishment of a National Department of Health, with its head a member of the Cabinet. For many years the Association endeavored to secure the coordination of federal health activities through such a department, and the 1938 special session of the House of Delegates again recommended the establishment of a federal health department with a secretary who shall be a doctor of medicine and a member of the President's Cabinet.

The National Health Conference was called in Washington on July 18-20, 1938, to consider the National Health Program. This program which was presented with little opportunity for thorough or dispassionate discussion or modification was based largely on a survey conducted by the United Public Health Service through the use of W.P.A. clients. The accuracy of many of the basic conclusions of the survey is open to strong suspicion.

Instead of presenting an unfounded opposition to schemes of compulsory sickness insurance the American Medical Association has given to such schemes more study, over a longer period, than the individuals or institutions that advocate such systems of insurance. This study, which has covered all existing systems throughout the world, has led to the conclusion that any scheme by which medical service is treated as a commodity that can be purchased wholesale by governmental or lay organizations and distributed at retail to patients results in a superficial service that not only delays the conquest of disease but actually increases some forms of sickness and has not been shown to be as helpful as other methods in reducing mortality.

COMMENT

Those who talk so glibly of making over this profession of ours—this profession rich in traditions; this profession which has attained such noble worth; this profession surfeited by kindness and sympathy; this profession whose only pass words are mercy and pity—lost sight of the art of medicine. They would, by a stroke of the pen, destroy this almost divine principle; they would reduce all these human attributes of kindness, pity, and mercy, to a formula. They would put the matter on a business basis under the assumption that only scientific medicine need be applied to the sick in order to effect a cure. What an abysmal misunderstanding of the principles involved. What gross injustice and what cruel denial would result, to many, many personalities. The art of medicine and its application must remain unchanged. Nothing must make unheard those words so often expressed by the sick, "Doctor, I'm so glad you have come". There is wrapped up in that one sentence the epitome of the medical art which has existed through the centuries. It is akin to the child who reaches out hands to his mother and finds solace and understanding in her arms.

The art of medicine has not changed. The passwords of mercy and pity, are the same today as in the days of Hippocrates and the doctor of the old school. These qualities of the human soul must not die if the art is to exist. Would you have me suppose that they can be reduced to a business formula? Would you have me think that they can be turned on and off by a switch? I call you to witness, that this can no more be done without debasing the quality than one can stifle the love in the human breast for its Creator, without dwarfing the soul.

We have been called ungenerous, mercenary, illiberal and selfish. If to teach the principles of sanitation and hygiene; if to broadcast rules and programs of maintaining health, if to give freely the discoveries of science resulting in the eradication of suffering and disease; if refusal to patent new remedies or to keep them hidden and secret; if to maintain clinics and hospital wards without recompense; if to apply knowledge of preventive medicine to the wiping out of specific diseases; if constantly to diminish our private practice and business by the dissemination of all this knowledge—if all this be ungenerous, then, thank God, I belong to such a selfish group!

It would take divine wisdom to foresee the future but it only requires common sense to keep constantly before ourselves, before the public and before our legislators the necessity of maintaining unsullied whatever is noble and worthy of the medical art. The only guide we have for the future is experience. Experience is largely the record of our mistakes. Lord Byron said, "The best prophet of the future is the past". There is ample evidence in events of the past of the deterioration of medicine under political influence. There has been no particular dissatisfaction of the public with the present type of medical service.

When physicians in the United States become, if they ever should, mere robots of a huge national compulsory system of medical care, making diagnoses from card indexes and mechanical gadgets and prescribing treatment from prepared and numbered lables, and when patients become a mere collection of interesting human parts to be shunted from one corner to another of a medical repair shop for some heartless and pseudoscientific tinkering, America will have lost one of its greatest institutions—free and independent medicine—and the American people will have lost some of their most valuable human traits, namely confidence in, respect for, and reliance on the scientific men and

women who protect their health and prolong their lives.

It is up to all of us to help mould public opinion, by the spoken and written word, as to the importance of medicine, initiating and directing any plans which have to do with governmental control.

Whether we accept lay leadership in telling us how and for what, and when and on whom we shall ply the art of our science, rests with the membership of the New Mexico Medical Society, insofar as the commonwealth of New Mexico is concerned.

Tumors of the Lips

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THE more important tumors of the lip are carcinoma, hemangioma, and lymphangioma. Of interest in differential diagnosis are syphilis (primary), herpes, inflammations, fissures, keratoses and leukoplakia, mucus cysts and adenomas, pyogenic ulcers, keloids, and papillomas. Sarcoma is rare, Richards[1] reporting only 1 case out of 355 cases of malignant neoplasms of the lip. Erosion of the lips at each menstrual period has been reported by Shelmire[2] in an admirable article devoted to non-surgical diseases of the oral cavity. An unusual case recently seen, a young negro with fibrous tumors of the nose and lips, was thought to have rhinoscleroma although having some characteristics of leprosy.

The lesion of syphilis is more frequently found on the upper lip[3], the inception and growth are usually more abrupt than carcinoma, and spirochetes are noted on dark-field illumination. The age of the patient is normally younger than in carcinoma. Hemangiomas are usually self-evident. Lymphangiomas may be more confusing. I have seen two cases of swelling of the upper lip where angioneurotic edema had to be considered on account of the wide variation in size of the tumors at different times.

Irritation of the lip from sun and weather, ragged teeth, pipes, etc., has been blamed as being a predisposing cause of cancer[4]. Syphilis seems not to be the factor in lip cancer that it is in the tongue, Kaplan & Krantz[5] finding a positive Wassermann in only 1%. Leukoplakia and keratoses appear to be forerunners in a certain number of cases. An interesting survey of cutaneous irritation and cancer in the United States Navy has been made by Peller & Stephenson[6]. They found the incidence of lip and skin cancer in the Navy to be 8 times the normal, but also found that there were fewer deaths from other forms of cancer. They state that the exposure to sun, air, and salt water is conducive to cutaneous cancer but that, after cure of the lip or skin cancer, internal cancer developed less frequently than is usually seen. We know of the rarity of multiple primary carcinomas, Warren & Shields[7] reporting such occurrence in only 1.84% of cancer cases. Hanlon[8] at the Mayo Clinic has added 49 such instances. Would it be best, then, for young people to be exposed to cutaneous irritations which are not carcinogenous to internal sites, hoping that fewer would develop internal cancer? Is this a sort of vaccination or immunization? Are there here any processes comparable to those involved in active immunization, such as for smallpox, diphtheria, typhoid, etc.? We know, however, that our patients with cured cutaneous cancer must be watched constantly for the appearance of other skin carcinomas—would it be logical to assume that they might not develop carcinoma in other organs?

I am not satisfied that pipe or cigarette smoking bears any definite relationship to lip cancer. I check such history carefully in every case and am impressed with the fact that the great majority of patients have held their pipes at a different part of the lip than where the cancer is found. Kennedy[9] found that out of 246 patients, 140 habitually used cigarettes or a pipe but only 19 were in the habit of holding either at the site where the carcinoma started.

In patients with superficial lip keratoses, we can do one of four things—first, observe the lip at intervals for evidence of malignant change; second, destroy the keratoses with electro-coagulation; third, use one or two intensive treatments of x-rays[10], or fourth, apply, if available, unfiltered radon[11]. For more advanced keratotic conditions unfiltered radon or radium is better[11]. In cases with some fissuring or superficial ulcerations which do not heal in a month, New[12] advises surgical removal of the affected areas. Patients, however, usually disregard abnormal conditions of the lip until a definite nodule, ulcerated more often than not, refuses to heal or increases in size. It is situated on the lower lip in about 9 out of 10 cases and is found preponderantly in males. Hall[13] had 93.7% males in his series and about 85% of the cancers were on the lower lip. In Kaplan's[5] cases males likewise accounted for 93%. Richards[1] reported only 6 cancers on the upper lip out of 335 cases. Park & LeFevre[14] saw cancer of the upper lip in only 3.5% of 589 cases. Their relation of males to females was 16.2: 1 for the lower lip and 4.25: 1 for the upper lip. In other words, carcinoma of the lip in men is almost always on the lower lip, while in women it is usually on the upper lip.

The few lesions, except one, that I have seen on the upper lip have been extensions around the commissure from the lower lip or seemed to be related more to the skin than the lip proper (ver-

million border). Why the upper lip is not involved more often I have no idea except that its surface is not so much exposed to the elements. If pipe or cigarette smoking were a real factor, we should see both lips involved equally. Have you ever tried to puff your smoke without employing both lips? The pipe "dawdler" and the cigarette artist who plasters the paper to the lower lip are certainly not of sufficient numbers to warrant serious consideration. Too, what is the greater irritative factor of the upper lip in women—are they forced to "bite their upper lips" more often than we males?

While clinical signs are usually diagnostic of cancer of the lip, it seems desirable to confirm with a microscopic diagnosis. For purposes of biopsy, Ewing[15] says the best method is a clean incision with a sharp scalpel. Electro-coagulation of the wound is frequently employed after the scalpel but its value can be only to stop bleeding. If the biopsy be removed by electro-surgery, care must be taken that heat changes do not make the pathologist's job too difficult. Theoretically it might be assumed that biopsies would enhance the chances of metastases. I have heard physicians state that they would prefer not to have biopsies performed on themselves. One would be inclined to be sympathetic to this attitude if it were definitely known that such assumption is truth, for the cure of an early carcinoma of the lip with no metastasis should be obtained in a large percentage metastasis. In a series of cases treated at the hospital of the University of Pennsylvania only 5% of those who developed metastases were successfully cured[13].

The problem of lip cancer is, in general, the same as we have seen with cancer in other regions, namely, that of preventing and dealing with metastases. The exceptions comprise those cases in whom the primary lesion is quite large when first seen, having already involved the chin, cheek, or mandible, with extensive local destruction of tissue and infection. It seems that the cancers which cause the greatest amount of local destruction are less prone to give rise to metastases[16], and when they do it is quite late (after 2-3 years[11]). They seem content to expend their energies in the environs, with little ambition to conquer distant fields. Contrarily, a carcinoma appearing quite small and non-destructive and which can easily be removed surprises us in 3 to 9 months with a metastatic gland in the neck. Distant metastases are rare, as is local recurrence[17].

In view of the fact that it is those cases which show metastases that comprise the greatest number of deaths, we want to know what percent may be expected to show metastatic glands. Duffy[18] has analyzed 271 cases and found that 77.5% never showed metastatic glands, 10% had operable, and 4% inoperable nodes when first seen, while 8.5% developed nodes later. Metastatic glands were found, then, in 22.5% of his cases at some time. Kennedy[9] found that 60% of his cases showed palpable nodes (this seems rather high) although only 33% were metastatic in nature. The remaining were inflammatory.* In addition, he found that 14% showed metastases even though no nodes could be palpated, thus raising the percentage having metastases to 47% or almost one out of two. We have, then, two groups of cases with metastatic percentages of 22.5 and 47. We must expect that only a very few of these cases will survive five years, and, indeed, New[12] of the Mayo Clinic reports 25% dead, while Welch & Nathanson[20] report 48%, showing the close parallel to the percentage range for metastases.

The usual age for lip cancer is 55 to 65 but cases have been reported from 20 to 95. The cancers which cross the mid-line of the lip will give more trouble than those which remain on one side, as the former have greater potentialities for bilateral metastases. Although we see some lip cases late in the course of the disease, as a rule these patients consult a physician earlier than those with cancer of any other site, except possibly of the skin. Richards[1] grouped his cases according to the size of the local lesion into 4 groups and found 74.% in Group I, 18% in II, 6% in III, and 1.4% in Group IV. This is distinctly at variance with cervical and breast groupings, where by far the greater number of cases falls in Groups III and IV. This fact makes for better prognosis of lip over cervical or breast cancer. Too, it is unusual to find the more anaplastic grades of cancer in lip carcinomas, most types being cornifying, or Grades I and II. Boyd[3] states that he has never seen a Grade IV cancer of the lip. The degree of malignancy increases from the lips in front back over the tongue and into the pharynx.

TREATMENT

It is of no great importance whether the primary lip lesion be controlled by surgery, irradiation (Roentgen-ray or radium), or electro-coagulation, if completely eradicated. Lund & Holton[21] rightly state that every case of lip carcinoma must be decided upon individually. Dickinson[22] and Martin[11] conclude that there has been no great advantage apparent in any single method. Advocates of irradiation believe better cosmetic results are obtained. For advanced primary lesions I shall be tempted to use surgery in the future, as irradiation seems incompetent in these cases. Newcomet[23], a pioneer in radium therapy, who has been mellowed by years of practical experience, says that the method with which one is the most experienced and skillful is the proper one to use.

Greater discussion prevails when we try to decide as to the proper treatment of the neck, either prophylactically or therapeutically. Should the neck be treated, if at all, before or after the primary lip lesion is attacked? In all this there is much to perplex the "seeker for truth". A survey, however, of

*Bloodgood[19] has stated that the clinical diagnosis of metastasis from carcinoma of the lip is wrong more frequently than right. Hall[13] found that 3 out of 4 palpable glands were only inflammatory in nature.

the treatment of cancer in other sites (cervix, breast, rectum, etc.) reveals that the same problems, viz. those of the lymph drainage regions, arise to plague the patients and tax the resources of the physician. Pagani[24], Jaycox[17], and others prefer to use roentgen therapy of the lymph gland areas prophylactically even when no glands are found or suspected. Moreland[25] advises surgery for glands thought to be metastatic, but uses neither irradiation nor dissection if there are no enlarged nodes. Duffy[18] and Quick[26] believe that lymph glands serve as a barrier to the spread of cancer, the latter stating: "Up to a certain point, at least, cervical lymph nodes perform a conservative function and hence should not be disturbed, if avoidable, particularly in the presence of an active primary growth". It would seem that if we cannot cure palpable metastases by large amounts of irradiation, it would be useless to use a smaller amount prophylactically. Duffy uses interstitial implantation of filtered radon for control of localized metastatic nodes.

My experience with block dissection is quite limited but I am convinced that I will never advise bilateral neck dissection, as such a formidable operation carries a mortality of 11% in good hands[9]. In addition, there is the possibility of lymphedema of the parts above the dissection, as well as recurrences in the incision. Unilateral dissection is safer, with fewer complications. The following postulates by Duffy[18] give the Indications and Contra-indications for neck dissection:

INDICATIONS

1. Primary lesion is controlled
2. Primary lesion limited to one side
3. Primary lesion is shown to be of highly differentiated type
4. Cervical metastases are present and limited to one group of nodes or nodes in two contiguous cervical triangles
5. Capsule of nodes is not infiltrated by carcinoma
6. Opposite side of neck is free of metastases
7. No distant metastases
8. Patient is in good general condition

CONTRA-INDICATIONS

1. Primary lesion is uncontrolled
2. Primary lesion extends to or beyond the mid-line
3. Primary lesion is shown to be of indifferentiated type
4. No metastatic nodes present
5. Capsule of node infiltrated by carcinoma
6. Cross or bilateral cervical metastases are present
7. Distant metastases present
8. Patient in poor general condition

For a case to be operable all indications must be present.

For a case to be inoperable only one contra-indication need be present.

In the inoperable neck cases, we have recourse to only two modalities, x-ray and radium. Interstitial radium or radon may be of value, but I have seen very little lasting benefit from x-rays or the 4 gram radium bomb. Such cases recall to mind Chavelier Jackson's apothegm[27]: "Cancer is like putting out a house afire—easy early, impossible late".

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History of Treatment of Acute Fractures of the Femoral Neck

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THE scope of this paper is not to review all the literature to date on this subject, because it is so voluminous in form of papers and essays that the task would be far greater than we have time to consider; so, therefore, it is proposed to present the sources of accepted forms of treatment as outlined in various text books on Fractures and Dislocations. It is also proposed to show the influence of certain outstanding men, and an attempt will be made to evaluate the time during which this influence lasted.

Read at the Fourth Harlow Brooks Memorial Navajo Clinical Conference, Sage Memorial Hospital, Ganado, Arizona, August 28, 1939.

My interest in this subject was aroused because a few years ago I was fortunate enough to obtain a copy of a Treatise on Dislocations and Fractures, by Sir Astley Cooper, which appeared in 1844. This copy was edited by his nephew, Bransby B. Cooper, and was published by the order of the Massachusetts Medical Society for the use of its Fellows. Prior to the publication of this particular volume, five London editions appeared between the years 1822 and 1842. Cooper was born in 1768 and died in 1842; altogether he published about 33 surgical papers. There is no doubt that Cooper was a master of description, because this particular work is a classic. We can pass over what he has to say about the causative factors producing this lesion, and will quote what he has to say in relation to union of femoral neck fracture:

"UNION OF THIS FRACTURE. Much difference of opinion has existed upon the subject of the union of the fractured neck of the thigh-bone. It has been asserted that these fractures unite like those of other parts of the body; but the dissections which I made in early life, and the opportunities I have since had of confirming these observations, have convinced me that fractures of the neck of the thigh-bone, of the patella, olecranon, condyles of the os humeri, and of the coronoid process of the ulna, generally unite by ligament, and not by bone. This principle I taught in my lectures for thirty years; and it is a most essential point, as it affects the reputation of the surgeon, as well as a subject of some interest in forensic medicine; for if these fractures unite like those in other parts of the body, the patient who remains lame after the treatment would undoubtedly have a right to seek redress from the surgeon at the hands of the law. I was called to a case of this fracture, in which, week after week, the medical attendant had been promising union, and the restoration of a sound and useful limb. After many weeks the patient became anxious for further advice; I did all in my power to lessen the erroneous impression which had been made, by telling the patient that she might ultimately walk, although with some lameness; and taking the surgeon into another room, asked him upon what grounds he was led to suppose there would be union; to which he replied he was not aware but that the fracture of the neck of the thigh-bone would unite like those of other bones of the body; the case, however, proved unfortunate for his character, as this patient did not recover in the usual degree."

In the following reference it does not require much imagination to realize that Cooper very aptly described the so-called sheering force of which we nowadays hear so much.

"In the examinations which I have made of transverse fractures of the cervix femoris entirely within the capsular ligament, I have only met with one in which a bony union had taken place, or which did not admit of a motion of one bone upon the other. To deny the possibility of this union, and to maintain that no exception to the general rule can take place, would be presumptuous, especially when we consider the varieties of direction in which a fracture may occur, (sheering forces) and the degree of violence by which it may have been produced. For example, when the fracture is through the head of the bone, with no separation of the fractured ends; when the bone is broken without its periosteum being torn; or, when it is broken obliquely, partly within and partly externally to the capsular ligament, I believe that bony union may take place, although at the same time I am of opinion that such a favorable combination of circumstances is of very rare occurrence."

"CAUSE OF THE WANT OF UNION. Having thus explained what is the common result of these cases in relation to their want of union, I shall now proceed to state the reasons which may be assigned for the absense of bony union in the transverse fracture of the neck of the thigh-bone within the capsular ligament. The first reason is the want of proper apposition of the bones; for if in any part of the body the extremities of a broken bone be kept much asunder, ossific union will under ordinary circumstances be prevented.

"The neck of the thigh-bone when broken, is placed under similar circumstances; for, by the contraction of the muscles, it is no longer in apposition with the head of the bone, and is, therefore, prevented from uniting; if this, however, were the only obstacle, it might be argued that the retraction of the thigh-bone could be prevented by bandaging and extension, the truth of which cannot be denied; but it is scarcely possible, even for a few hours, to preserve the limb in exact apposition, as the patient, on the slightest change of posture, produces instant retraction, by bringing into action those powerful muscles which pass from the pelvis to the thigh-bone."

(Here is described the mechanism causing lack of apposition.)

"A second circumstance which prevents the bony union of these fractures, is want of pressure of one extremity of the broken neck upon the other, even though the limb preserves its length, and the fractured parts are consequently not much displaced. This want of pressure may arise in some degree from the excessive secretion of serous synovia which follows the accident; but principally from the action of the muscles which separate the broken surfaces. The influence of pressure in expediting bony union is well exemplified by the fact, that if two broken bones overlap each other, a superabundant formation of callus occurs on the side on which they are pressed together, whilst little or no change takes place on the other side. So also we find that, if the ends of bones be drawn from each other by the action of muscles, as sometimes happens in fractures of the os femoris tibia, os humeri, radius and ulna, union is not effected until the surgeon, by a strong leathern bandage tightly buckled around the limb, compels the bones to press upon each other, and thus support the necessary inflammation for the production of ossific union. When a transverse fracture occurs amidst muscles, those which are inserted into the fractured part of the bone have generally a tendency to keep the extremities of the bones together, with some few exceptions; but when a fracture occurs, as has been already stated, in the neck of the thigh-bone, the muscles have only an influence upon one portion of the fractured bone; and this influence serves to draw one part from the other."

"The third reason which may be assigned for the general want of union of this fracture is the almost entire absence of nutrition in the head of the thigh-bone when separated from its cervix, its life being supported by the ligamentum teres, which has only a few minute vessels ramifying from it to the head of the bone. It may be observed that the neck and head of the thigh-bone are naturally supplied with blood by the periosteum of the cervix, and that when the bone is fractured, if, as most frequently happens, the periosteum be torn through, the means of ossific action are, in consequence of such fracture and laceration, necessarily destroyed in the head of the bone. Scarcely any change, therefore, takes place in the head or neck of the

bone attached to it; no deposit of cartilage or bone similar to that in other fractures is produced; but the deposit which does take place, as may be seen in the plates of fracture of the neck of the thigh-bone, consists of ligamentous matter covering the surface of the cancellated structure, together with little patches like ivory on the head of the bone.

"The fourth reason which may be assigned for want of union by bone is the natural change of the cervix femoris in old age, the atrophy of its structure which diminishes its power of resistance, as well as its capability of restoration; together with the general want of constitutional vigor which always accompanies old age."

(Editorial Note). "There is yet another reason to which due weight should be given. The cellular membrane which surrounds ordinary bones is an important agent in the reparation of fractures. It is the medium through which blood-vessels are supplied to the periosteum, and it is the seat of a copious effusion of adhesive lymph, which lymph becomes organized and ossified, and constitutes the provisional callus which unites the fracture. But in fractures of the neck of the thigh-bone, the fracture is separated from the surrounding cellular tissue by the capsular ligament, and therefore the union cannot be effected by a provisional callus. Old age may also be considered as a cause of non-consolidation of the neck of the thigh-bone; for not only is there that difficulty of reparation inseparable from the advanced period of life at which the fracture occurs, but also that peculiar change which had taken place in the neck of the bone before the accident happened, rendering it impossible to conceive how under such circumstances re-union is to be expected, when in continuity, the neck of the thigh-bone had not vitality enough to maintain its natural integrity. I believe, therefore, it is a law of nature, the result of organization, which leads to a ligamentous union, and not the neglect of mechanical means, which prevents ossific consolidation in these cases, for it appears that callus is not formed in those situations where its presence would interfere with the motions of a joint. What would be the effects of a mass of callus protruding on the inner surface of a fractured skull? And is it not easy to see that the formation of callus in or near joints would tend to destroy the function of those joints? What degree of useful motion would remain in the knee or elbow if both surfaces of a fractured patella or olecranon threw out a projecting callus? We may say, therefore, that the cervix femoris is from its structure incapable of uniting by callus, like ordinary bone; and that, even if it were, the want of pressure and adaptation of the broken surfaces, the want of nutrition in the upper fragment, the previous atrophy of the part broken, and the age and debility of the patient, would be highly unfavorable for the union.—Ed."

Following the fourth reason for non-union the author continues to describe this fourth reason—

"The appearances which are found on the dissection of these injuries are as follows: The head of the bone remains in the acetabulum attached by the ligamentum teres; there are, upon parts of the head of the bone, very small white spots like ivory."

It is during the past few years in which the description of this ivory-like appearance in radiographs has become quite common, and signifies the death of the head of the femur.

Another very significant foot-note, which is editor's opinion, is found on the bottom of page 135, and is as follows:

"I am of Sir Astley Cooper's opinion that fractures of the neck of the thigh-bone within the capsular ligament, do not, excepting under peculiar circumstances, unite by bone, and that the exception occurs only when the periosteum and reflected membrane of the neck of the bone has not been torn through, and when, therefore, the fractured extermities are not separated from each other. I maintain that there are several circumstances tending to prevent the ossific consolidation of a fracture of this part of the thigh-bone, or, in fact, of the articular extremity of any long bone within the synovial capsule. With respect to the neck of the thigh-bone, a very principal cause of its non-consolidation by bone is the advanced age at which it becomes obnoxious to fracture, through that peculiar change which the part undergoes at this period of life, without any apparent cause; but which renders it incapable of sustaining the superincumbent weight, and even in continuity insufficient to maintain its function; therefore, it may be fairly supposed, when broken, incompetent to set up a restorative action. The want of surrounding tissues to assist in the reparation of the fractured neck of the thigh-bone is another great cause of the want of union. In the fracture of the shafts of the long bones the surrounding structures all assist in forming the provisional callus, and the temporary consolidation is perfected by them; the permanent union of the fractured bone not being completed until the contraction or shrinking of the provisional callus has brought the fractured ends of the bone into perfect conjunction; a condition which cannot be effected when no provisioal callus is formed, as in fracutres within the capsular ligaments of joints.

"Moreover, so soon as the fractured portions of the neck of the thigh-bone are separated, all supply of blood must be cut off from that portion attached to the head excepting to its articular cartilage, which does not seem capable of maintaining ossific deposition; and hence arises a preventive to ossific union of the neck of the thigh-bone. And lastly, let it be remembered that all articulating extremities of the long bones are attached to their shafts or bodies by epiphyses, structures which are subjected both during growth and reparation to quite different laws from those which regulate the development and functional power of the osseous system generally. I do not believe in bony union of the neck of the thigh-bone, where solution of continuity has occurred; and no cases have been published which militate against this opinion. But if the fractured surfaces be not separated, then their consolidation is effected in the same manner as when shafts of long bones have been ultimately brought in contact by the shrinking of a provisional callus; or as flat bones repair from the fractured edges.—Ed."

"TREATMENT.—With respect to the treatment of fractures of the neck of the thigh-bone within the capsular ligament, various are the means to which I have had recourse, and which I have known resorted to by others, for the purpose of producing union in this accident, but all without avail.

"One mode has consisted in placing the fractured limb over a double inclined plane, by which a regular and constant extension is preserved; and, by raising the planes at the knee, this extension may be increased to any degree that the surgeon may require, or the patient can bear; at the same time, a bandage is applied around the pelvis and upper part of the thigh, to bring the neck of the bone, as much as possible, in approximation with the head from which it has been separated; and this extension, with pressure, has been steadily preserved for three months. With respect to the patient's body, it has been placed at an angle of forty-five degrees.

"A second method has consisted in placing a board at the foot of the bed, upon which the foot of the sound limb is supported, so as to prevent the descent of the body in the bed; the other limb is then extended as much as possible, and a weight, appended to the foot, is suffered to hang through a hole in the board over the end of the bed, in order to support the extension with regularity and steadiness for several weeks.

"In a third method, the patient has been placed in bed with both limbs extended to the utmost possible degree, and then the two feet have been bound together by a roller, passed from the foot on the injured side under the sound foot, so as to make one limb steadily preserve the extension of the other. Or this may be effected by an iron plate affixed to the shoe on the sound foot, with a screw passed through a hole in the plate, and having a band fixed to the other foot, which may be tightened by turning the screw, and the foot, by this means, be kept constantly extended.

"A fourth mode employed for this purpose has been the application of Boyer's splint, with the intention of extending the limb from the pelvis; but this splint, though it answers well for fractures of the thigh under ordinary circumstances, has a tendency to prevent union in those fractures which occur at the upper part of the bone, by the pressure of its band upon the inner and upper portion of the thigh."

Discussing further the question of treatment, a description of a splint, known as the "Hagedorn splint", which, undoubtedly, many of you men are familiar with, and which would seem to be mechanically correct, but, physiologically speaking, it was not satisfactory. This splint also may have been the fore-runner of the "Thomas splint", because it utilizes the tuberosity of the ischium as a point of contact to produce counter-pressure against extension. Mr. Cooper, in commenting on the attempts at cure, and the consequent danger to the life of the patient, considers the question of hoping that the musculature, particularly the ligaments, would become strong, allowing weight bearing, and in this respect there is an editorial note at the bottom of page 142, in which reference is made to the obturator externus muscle and its tendon. (Editorial Note) "The obturator externus muscle and its tendon under these circumstances become excessively increased, so as to support the weight of the body, and the capsular ligament also becomes much thickened. Sometimes the broken neck sinks into the trochanter minor, and thus acquires additional support." In this relationship the speaker is of the opinion that the obturator externus muscle is a great offender in the question of non-union, and I have brought a specimen showing its attachment in its relation to the neck of the femur, and which I will show you. It is rather interesting to note that in the subsequent texts examined I have failed to find a satisfactory mention of the relation of the obturator externus muscle to the question of non-union in femoral neck fractures.

Thus we proceed to note that with such accurate descriptions of the various phases of this problem it is hardly reasonable to assume that subsequent generations of observers would outstrip Cooper's description. However, we will turn to examine what subsequent authors of text books had to say.

The first to be examined then is Hamilton, whose work ran through eight editions, the first appearing in 1860 and the last in 1891. Frank Hastings Hamilton was Professor of Surgery at the University of Buffalo. In the preface of his first book appears a very significant note, as follows: "The English language at this time does not contain a single complete Treatise on Fractures and Dislocations". If you remember, Cooper's work was simply a series of lectures, and not classified as a definite text on Fractures and Dislocations. Hamilton's book (and I am fortunate enough to possess three different copies, the first, third and fourth editions), shows the influence of Cooper by continual references throughout the text and the subject matter copied in toto, with acknowledged reference to the source of this material.

The next text examined was an original essay on "The Hip", by Henry J. Bigelow, Professor of Surgery at Harvard Medical School, and is essentially a work on dislocations. In it is described in much detail the "Y" ligament of Bigelow. This book is very interesting in relation to dislocation, but is rather disappointing when fractures of the neck of the femur are considered, and there is practically no reference to any outside source in Bigelow's text.

The next interesting text examined was written by Philip S. Wales, a surgeon in the United States Navy. This work appeared in 1867, and definitely was the influence of Cooper's teachings.

In 1893, Royal Whitman of New York, although he never published a text book on fractures, began to revolutionize this problem by introducing the abduction method. There is no doubt in my mind that Cooper influenced Whitman to a very marked degree, and Whitman, in his curious investigative mind, was desirous of obtaining better end results. It is possible to assume that Whitman's contribution to this subject may have been a turning point away from Cooper's influence, because of the practically universal vogue of the adoption of the Whitman method.

Another important factor which may have contributed in a very marked degree was because the roentgen ray had come into existence, and examination of patients by this method enabled the observers to determine the relationship of fractures more satisfactorily, thus equipping the surgeon with a new chance to observe the result of his clinical evidence.

In my search for this source of material I was unable to find any other text book worth while, until 1910 when Stimson's work on fractures appeared. It was now almost twenty years after Whitman made his contribution. A quotation from Stimson in which he criticized Senn, Southam, and Whitman, is as follows:

"Forcible correction under ether, recommended by Senn, and recently again by Southam and Whitman, should be limited, in my opinion, to the rela-

tively young and robust patient with fracture at or near the base of the neck, and even in them the same results can be obtained by continuous traction. The generalization of this hasty forcible correction by wide abduction has of late been urged, it seems to me, with more zeal than attention to the anatomy of the region and pathology of the injury. No abduction which is wider than a normal neck will permit can recreate a normal neck. The alleged use of contact between the top of the great trochanter and the ilium as a fulcrum for such abduction is fanciful, no dissected hip that I have examined would permit the trochanter to be brought within an inch of such contact while the head remained in its socket, and even the less extreme manipulations seem to me to be dangerous in some, and futile in others, because of the lack of control over the position of the proximal fragment. Continuous traction can be made by weight and pulley (Buck's extension), or by Hodgden's suspended splint, or by a combination of the two, or in combination with a long side-splint or hip-splint. The details of their application are given in Chapter VII. If Buck's extension is used, the foot and leg should lie on a Volkmann's sliding rest, to promote comfort and oppose eversion of the limb, and a small firm cushion should be placed behind the trochanter. Direct pressure upon the outer aspect of the trochanter to press the fragments together can be made by a padded band about the pelvis. The weight varies from five or ten pounds in the old, to fifteen or twenty in the young adult. If Hodgden's splint is used, the traction can be made greater or less by changing the angle of the supporting cord; thus, in the old its upper attachment should usually be about a foot beyond the vertical (at a height of about 5 ft.) and more, if more traction is desired. The limb should swing just free of the bed, somewhat abducted. The Hodgden greatly promotes the patient's comfort and is generally to be preferred, I think, to the other methods of traction. In this statement I include its use for simple vertical suspension while traction is made by Buck's extension (combined suspension and traction). The attempt to secure union by operation, in fresh as well as in old cases, has been made many times since Lagenbeck's first and unsuccessful one. The first success was got by Franz Konig in 1875, by passing a metal pin through the trochanter, neck and head, and most subsequent ones have been got in the same way."

The next text was the first edition of Cotton, which appeared in 1910. The treatment at this time of unimpacted fractures of the neck of the femur was as follows:

1. Traction and immobilization.
2. Traction in the line of the shaft with lateral traction.
3. Traction with abduction.
4. Traction with abduction and with pressure on the trochanter.
5. Open operation with or without nailing.

Cotton apparently was not influenced by Whitman, and he mentioned about the use of a nail in open operations, but was not very warm in his attitude in that respect.

The next text was Scudder's first edition which appeared in 1911, and offered treatment as follows:

1. Old time traction and counter-traction by weight and pulley, and elevation of the foot of the bed.
2. The Thomas Hip Splint, with, or without traction.
3. Method of forcible abduction and immobilization by plaster of Paris, with or without continuous traction.
4. Method of pegging.

The author was evidently being greatly influenced by the Whitman method because he gives considerable space to it, and it is interesting to note that in the fourth method described, which is the method of pegging, a nail was used. He was a rather optimistic individual because he states, quoting, "In fresh fractures in old people and young adults a peg may be placed without a skin incision directly through the trochanter and neck into the head."

The next text examined was that of Preston which appeared in 1915. Preston was Surgical Examiner for the Colorado State Board of Examiners, and former Police Surgeon for the City of Denver. Here the influence of Whitman is quite manifest, also some of the older methods, such as the T-splint; also Buck's extension with the T-splint was advocated, but the most interesting thing about the whole book is that the operative treatment was a criticism of nailing and pegging. He devised a method of internal fixation which consisted of a screw and a long arm which was applied with other screws to the lateral surface of the femur.

The next text examined was that of Roberts and Kelly, 1922. The first edition appeared in 1916; my copy is that of the second edition, which appeared in 1922. Descriptions of the older methods, such as Buck's extension and T-splint, are mentioned, but we can see very definitely the influence of Whitman. They speak of the Ruth Maxwell method also.

The next text examined was by Hey Groves, an English author, which disclosed quite modern methods of treating fractures. The text is unsatisfactory because it is purely operative. He, however, advises a bone graft after the method of Albee.

We now come to Speed, second edition, 1928, and without a doubt Speed, in his usual clear and concise manner, probably gives the most exhaustive expose of any of the texts examined. He discusses the various operative methods and shows bad results of nailing by penetration of the acetabulum, and faulty union.

Magnuson was the next text examined, and which appeared in 1933. He is definitely in favor of the Whitman method for fresh fractures.

Cochrane and Wilson was the next text, first edition, 1925. Their text, like Speed, is very extensive in respect to the fractures of the neck of the femur. They are very strong for the Whitman method. On page 508 are shown two radiographs of open reduction of the femoral neck fracture in a young adult. There is fixation with a steel nail; also this statement, "The introduction of foreign material for the purpose of internal fixation is rarely required since the introduction of the Whitman method."

Of the most recent texts two will be mentioned. In Key and Conwell's edition of 1934, Whitman is the dominating influence. Mention is made of the Smith-Petersen nail.

Then came a text by Philip D. Wilson and collaborators, entitled "Management of Fractures and Dislocations", in which there is a very extensive review of the treatment of intracapsular fractures

of the neck of the femur by nailing, with a critical analysis of case histories. There was also a chapter devoted exclusively to the Smith-Petersen nail by Smith-Petersen and oc-workers.

The next text examined is the Eleventh Edition of Scudder, which appeared in 1939. His discussion of the problem is very complete. He describes many methods, and in very marked detail the Whitman method, showing that Whitman does still influence Scudder's thoughts. There is also a considerable discussion of the various methods of skeletal fixation, particularly the Moore wires. In all, Scudder's text is very refreshing and satisfying.

COMMENT

In conclusion, I have attempted to show the number of years through which the influence of Cooper's writings held sway. This influence began to lessen after the publication of Whitman's abduction method appeared. There is no doubt that Whitman may well be a landmark in fracture surgery, because of his contribution, although his method was not always received by various writers with enthusiasm. His star is now in eclipse, so that we have now arrived at a period, the "hardware" stage, as one observer so aptly described it, since metal fixation has gained very enthusiastic favor. Today wires, flange nails, X-type nails and toggle bolts are being used by various surgeons. While the methods of nailing are not altogether new, the test of time will ultimately prove their value.

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Helminthic Infections*

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THE term "helminthiasis" usually deals with infestations caused by parasites representing the two phyla — platyhelminthes, the flatworms, and nemathelminthes, the roundworms. More rarely the terms deals with another group, the phylum, annelida, certain representatives of which may parasitize man.

Parasites of the two phyla, platyhelminthes and nemathelminthes, are peculiar in that they have a definite adaptation to the tissues of their hosts and are thus able to survive and reproduce their kind. Although the greater majority of the parasitic worms are found in the lumen of the intestine or attached to or embedded in the intestinal wall, many other parts of the body are invaded, including the trachea, lungs, liver, spleen, heart, bladder, sinuses, muscles, peritoneum, eye, brain and subcutaneous tissues.

Each species of parasitic worm must have some way in which to enter the body of its host, and, in addition, must have some way by which its offspring may escape. The majority of the intestinal parasites enter the body of their host through the mouth, and the eggs or larvae escape with the passage of the feces. Many of the helminths utilize an intermediate host such as certain species of snails, blood-sucking insects and other invertebrates to assure their existence as well as their transfer from host to host. Other species depend upon the accidental ingestion of their eggs by means of contaminated food and water. Still other species effect their entry by burrowing through the skin and ultimately reach their destination within the host's body. During the period of migration after entering the body of the host, certain species become "sidetracked" during their development and thus must wait until the host is devoured by some other animal before the life cycle can be completed.

Infections, showing clinical symptoms, are dependent upon several factors such as: (1) the organs or tissues of the body invaded; (2) the degree of infection, *i. e.*, the number and size of the parasite involved; (3) the ability of the parasite to stimulate the replacement of host-tissue by tissues of abnormal types; (4) the ability of the parasite to produce either mechanical or toxic injury, and (5) the susceptibility or the resistance of individuals or races to the infection. Faust[1] states that "there is a wide range of compatibility between the parasite and its host. In certain individuals there is complete lack of reaction on the part of the host; acute infection results and the prognosis is grave. In other patients there is mild reaction and the infection becomes chronic. A third consists of sufficiently controlled reaction on the part of the host to replace tissue as rapidly as it is destroyed, with little or no symptoms resulting; this is referred to as a 'carrier state.' In a fourth type of relationship the parasite, due to a high threshold of resistance (non-susceptibility, immunity) on the part of the host, is unable to establish itself. On the whole, children are much more susceptible to worm infections than are adults."

PLATYHELMINTHES

The phluym platyhelminthes is divided into four classes, namely: (1) turbellaria, (2) trematoda, (3) cestoda, and (4) nemertea. Of these four classes only the trematoda and cestoda are parasitic in man, the other two classes being comprised mostly of free-living, non-parasitic forms with the exception of the turbellaria, which class includes a few species living as commensals or as parasites in animals other than man.

Among the tremoda, which includes the intestinal, liver, lung and blood flukes, we have no particular concern although we do have to be on

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the lookout for infections of the blood fluke, *Schistosoma mansoni*, as this species has a wonderful opportunity for introduction into the southwest, particularly along the costal areas. In those areas there is a distribution of molluscan hosts suitable for the development of the immature stages of this parasite. The climatic conditions in the area bordering the Gulf of Mexico and extending down into Mexico are essentially correct. The distribution of the parasite extends well up the eastern coast of South America and involves several of the smaller islands. The other flukes offer no immediate problem, although they should be kept in mind as possible human invaders.

In infections due to members of the class cestoda, the symptomatology, according to many workers, is psychological—that these parasites within the intestinal tract are relatively harmless—that few tapeworms produce symptoms except for nervous irritation, particularly in children. Chandler[5] states that: "They may cause mechanical injury by obstructing the intestinal canal and by injuring the mucous membrane where they adhere, and they may absorb enough nourishment to produce the proverbially ravenous 'tapeworm appetite.' They undoubtedly do some injury by producing toxic substances that are absorbed and which cause symptoms as anemia, eosinophilia, malaise, and indefinite nervous symptoms such as dizziness, insomnia, restlessness, false sensations and occasionally convulions and epileptic fits. Disordered appetite, abdominal discomfort, anal itching, etc., may be complained of."

Of the tapeworms we have *taenia solium*, the pork tapeworm, which can at once be ruled out as an important parasite in this country, although it is common in parts of the world where pork, not thoroughly cooked, is consumed. Instead, its close relative, *taenia saginata*, the beef tapeworm, is most often confronted. *Cysticercus cellulosae*, the larval stage of *taenia solium*, commonly known as the "bladder worm," may produce severe infections in man, particularly so if these larval forms become lodged in the tissues of the brain.

Hymenolepis nana, the dwarf tapeworm, occurs usually in small children and is the most frequently encountered tapeworm in the southern United States. This parasite requires no intermediate host and is able to complete its developmental cycle within the human host. A close relative, *hymenolepis diminuta*, the rat tapeworm, has been reported in increasing numbers for man and has been found in several of the southern and southwestern states. These two species of worms may produce at times various clinical symptoms as systemic toxemia, cachexia, insomnia, convulsions and epilepsy. Man becomes infected by swallowing the eggs picked up from soiled toilet seats, dirty bed linen or directly from anus to mouth in the case of *hymenolepis nana*, while several species of insects serve as intermediate hosts of *hymenolepis diminuta* and man becomes infected by the accidental swallowing of these infected arthropods.

Another tapeworm often found in the cooler portions of the world is the broad tapeworm of fish, *diphyllobothrium latum*. This parasite has several foci in North America and has been reported from Canada and from around the shores of Lake Michigan and from the lake regions of Minnesota. According to the recent literature, this worm appears to be a parasite of some importance in the United States. The life cycle of this worm requires two intermediate hosts in order to further its development before reaching the final host. These intermediate hosts include any one of several appropriate copepods and fresh water fish of several species. Dog, cat, pig, fox, mink, seal, walrus and man are susceptible to infection with this parasite, but man is the chief disseminator of the eggs of this cestode in endemic areas.

Infection with the larval forms of *echinococcus granulosus*, the hydatid worm, a very small worm in the adult stage inhabiting the intestinal tract of dogs and other animals, should always be regarded as serious, although the seriousness depends upon several factors such as the type of cyst produced, the organ or tissue invaded and whether or not secondary cysts develop. Human infection is acquired by the accidental ingestion of the eggs of the parasite through contaminated food, particularly vegetables, or from direct transfer by the fingers to the mouth from handling or fondling infected dogs.

Dipylidium canium, the double-pored tapeworm of the dog, is another helminth parasite found more particularly in children. The developmental cycle of this worm requires an intermediate host, which in this case is either the biting louse of the dog, *trichodectes canis*, or the dog flea, *ctenocephalides canis*. Children become infected by the accidental ingestion of an infected louse or flea, or by allowing their faces to be licked by a dog which has just crushed a louse or a flea with its teeth.

NEMATHELMINTHES

The phylum nemathelminthes is divided into two classes, the nematoda and acanthocephala. The majority of the forms pathogenic in man are found in the class nematoda; only two species of the acanthocephala are known to occur in man, and these but rarely.

According to Lamson,[7] the round worms inhabiting the intestine may be characteristically grouped as follows:

1. Those not embedded in the intestinal mucosa—free living. *Ascaris lumbricoides* and *enterobius vermicularis*.

2. Those partially embedded in the intestinal mucosa. *Trichinella spiralis* and *trichocephalus trichiuris*.

3. Those completely embedded in the intestinal mucosa. *Strongyloides stercoralis* is the only one coming under this grouping.

Hookworms, *necator americanus*, *ancylostoma duodencle* and *ancylostoma braziliense* will attach and reattach at intervals.

Ascaris lumbricoides, the large round-worm of the intestine has a world-wide distribution and is particularly prevalent in the warmer climates. It is chiefly a parasite of children, who acquire the infection through the accidental swallowing of infective eggs obtained from polluted water, contaminated food, soil from dirty floors of dwellings and outhouses and from soil in yards in shady places where the eggs are protected from the direct rays of the sun. In the migration of the larvae severe symptoms may develop particularly so when these forms invade the lungs.

Enterobius vermicularis, the pin- or seat-worm, is primarily an infection of children, although it is often found in all members of the household. The movements of the adult worms on the perianal skin causes an intense pruritis, particularly at night, and often results in a determined effort on the part of the patient to relieve the discomfort by scratching with the finger nails, and in so doing many infective eggs are picked up which may eventually reach the mouth and subsequently swallowed. Infective eggs may also be picked up from soiled bed linen or night clothes by other persons handling these materials used by the infected patient.

Infections with *trichinella spiralis* are prevalent in many sections of the United States, positive cases ranging from 3.5% in New Orleans to 27.6% in Boston. In 1936 McNaught and Anderson,[3] in their report on the incidence of trichinosis in San Francisco, found that 24% of 200 autopsied cases examined were positive. Geiger,[4] based on case reports for the years 1936 and 1937, shows that 27 cases occurred in San Francisco during these two years. Man becomes infected by eating improperly cooked pork or bear meat containing the encysted larval forms. Records show that these encysted forms may remain viable after an elapsed period of 11 years in hogs and from 25 to 31 years after infection in man. The fatality of this disease has been as high as 30% in some areas, but it is dependent to a great extent upon the number of larvae originally ingested, since a small number of worms do not produce a serious or even a noticeable effect.

Trichocephalus trichiuris, the whipworm, infections are rarely important clinically except in heavily infected cases. The symptoms produced in the event large numbers of the worms are present simulate those found in hookworm infections, and patients so infected will soon succumb unless the parasites are destroyed. Man becomes infected through the accidental swallowing of fully developed eggs obtained from polluted water or moist soil from infected dooryards. This is a cosmopolitan parasite, more common in the warm, moist countries of the world. In the United States the distribution is quite scattered, being found more particularly in areas with a heavy rainfall and soil adapted to hold the moisture.

Strongyloides stercoralis, with a distribution approximating that of hookworms, is considered to be more and more important as reports from increasing amounts of investigation appear. According to Craig and Faust,[1] Darling (1911) and Faust (1936) reported infection rates as high as 20% of surveyed populations. Man becomes infected through skin contact with the infective stage larvae which have developed in the soil. At the site of entry a petechial hemorrhagic area appears with intense itching. Other symptoms are noted as the larvae migrate into the blood vessels and then to the lungs, where they may cause inflammation similar to that produced by the larvae of *Ascaris lumbricoides*. The usual foci of infection of the adults are the upper levels of the intestinal tract. The adult female worms produce embryonated eggs in the mucous membranes of the intestine. The larvae hatching from these eggs make their way into the lumen of the intestine and as such are found in freshly passed feces. This peculiarity forms the basis for diagnosis, as any living larvae found in freshly passed feces will usually be the larvae of *strongyloides stercoralis*. In stools which have stood for some time in a warm room, *strongyloides* larvae would necessarily have to be differentiated from newly hatched hookworm larvae. This fact shows the necessity for the examinations of freshly passed stools in cases of strongyloidosis.

Hookworm infections are caused by members of the genus *necator* and of the genus *ancylostoma*. *Necator americanus* is the common hookworm of the western hemisphere; *ancylostoma duodenale* is practically limited to the temperate zones of the Old World, while *ancylostoma braziliense* has a scattered distribution in warm, humid climate, including the northern part of South America and along the southeast Atlantic and Gulf states. In case of exposure to the infective stage larvae found in "night soil" and infested soil, the larvae penetrate into the deeper layers of the skin. Some of these larvae penetrate into the peripheral blood vessels, and are carried to the right heart and then to the lungs, thence through the alveoli, up the air passages to the glottis and then down through the oesophagus to the small intestine and become attached to villi and develop to maturity. Larvae of other species of hookworms, particularly those producing infections in dogs and other animals, often invade man, and, seemingly unable to penetrate into the peripheral blood vessels, continue to migrate through serpentine tunnels within the skin layers, producing the so-called "creeping eruption." Reed[10] states that: "This is in accord with the general law of parasitology that unaccustomed parasites tend to invade unusual parts of the host's body."

Filariasis caused by a nematode parasite, *wuchereria bancrofti*, is found in practically all the warm regions of the world. In the United States the infection seems to be confined to the area around

Charleston, S. Car., and is often spoken of as the "slave disease." The life cycle of this parasite depends upon certain species of mosquitoes for its transfer from host to host. In the United States, *culex quinquefasciatus* is the principal vector, although *culex pipiens*, a mosquito resembling *culex quinquefasciatus*, should be regarded with suspicion. This species (*C. pipiens*) has a wide distribution in this country and is a proven vector of the disease organisms in other parts of the world. Many other species of mosquitoes have been demonstrated to be important carriers, but any mosquito in which the larvae develop should be considered as a potential vector. Three other species of filarial worms, *loa loa, acanthocheilonema perstans* and *onhcocerca volvulus*, have been incriminated as causative agent of disease. All of these species of worms are important and all depend on an insect or some other arthropod as an intermediary host. Of these three filarial parasites, *onchocerca volvulus*, the causative agent of the disease entity, onchocerciasis or onchocercosis, deserves mention. This disease, originally a human disease of Africa, has gained entrance into South and Central America through the slave trade and is gradually spreading northward. This nematode parasite is dependent upon species of flies belonging to the family *simuliidae* of the order *diptera*, for their distribution. These insects are small, black flies which are vicious biters and inhabit shaded areas along shallow mountain streams, but may also breed in ditches along the roadside in which water moves more slowly. The members of this family are quite widely distributed in the United States, 47 species have been described under the one genus, *simulium*, although some workers have placed many of them under several subgenera. In California 18 species have been reported, while 12 species have been reported from the southwestern group of states. The insects representing the family *simuliidae* are notoriously difficult to control, due to the habitat in which the immature stages are found. The adult females deposit their eggs on rocks, logs, dipping leaves, twigs and grasses, and in the spring of the year the peculiarly shaped larvae can be found in masses clinging to these objects beneath the water, particularly in places where the stream of water forms miniature "falls." Herms[5] "has repeatedly recommended that streams in which these insects are breeding should be kept as free from debris as possible, including dipping branches of overhanging trees and submerged roots."

The most characteristic feature of this disease is the formation of nodules in the subcutaneous tissues surrounding the worms. These nodules are usually found where pressure on the skin occurs, due to tightly fitting hats or clothing, or at areas where the skin is more tightly drawn, such as at bone articulations and around the ears and eyes. The most serious condition is blindness caused by the larvae penetrating the tissues of the eye. This condition is prevalent in Guatemala and Mexico, and is a major cause of blindness in those countries.[6]

DIAGNOSIS OF HELMITH INFECTIONS

The diagnosis of helminth infections depends chiefly upon the microscopic identifications of the eggs, larvae or adults as they accur in the tissues, feces or body excretions. In addition, clinical symptoms must be taken into consideration as well as positive skin reactions produced by specific antigenic materials in certain of the infections.

In instances where light infections are indicated, centrifugation or floatation of fecal specimens by any one of several methods may be necessary when dealing with forms which at some time during their life cycle inhabit the intestinal tract.

LABORATORY EXAMINATIONS

A brief account of the laboratory means of diagnosis of the more important helminthic infections follows:

Platyhelminthes

Cestoda:

Taenia solium—Identification of mature proglottids in fecal stool. May be distinguished by the presence of 7-13 lateral arms of the uterus. Scolex which is *armed* with two rows of large and small hookletts is also diagnostic.

Taenia saginata—Identification of mature proglottids in fecal stool. May be distinguished by the 15-20 lateral arms of the uterus. Scolex which is *unarmed*, is quadrate in appearance with four hemspherical suckers.

Hymenolepis nana—Identification of eggs in stool. Eggs are spherical, hyaline, with polar filaments between the inner and the outer shells.

Diphyllobothrium latum—Identification of the eggs in the feces. Eggs are approximately 45x70 microns, yellow in color, broadly oval, operculate. Proglottids are broader than long, the uterus forming a "rosette" in the center of each proglottid.

Echinococcus granulosus—Eosinophilia of 30-35% is suggestive.

Hydatid thrill.

Presipitin test: Equal parts of patient's serum and hydatid fluid. Incubate at 37 degrees C. for one hour. Flocculation appears within 36 hours.

Casoni reaction: Antigen of sheep or hog (fluid obtained by the aspiration of cyst found in liver of either of these animals). 0.2 cc. antigen injected intradermally in the skin of the arm of the patient. Control with saline. Wheal forms in about 15 minutes if case is positive.

Complement fixation test.

Dipylidium caninum—Diagnosis usually based on the discoverey of a single proglottid or a small chain of proglottids having a characteristic "pumpkin or cucumber seed" shape, with a genital pore on either side.

Nemathelminthes

Nematoda:

Ascaris lumbricoides—Diagnosis usually based

upon the recovery of the very characteristic fertilized or unfertilized ova in the stool. These ova are rather large, broadly oval, and covered with a coarsely fluted or mammillated outer shell. Due to the staining with bile pigment they usually appear a golden-brown color. In case infections are caused by male worms alone, the diagnosis must be based on clinical symptoms or history of previous infections or by the discovery of the male worms in the feces.

Enterobius vermicularis — Scrapings from under the finger nails or from the skin of the perianal region will usually reveal the eggs of this species in the infected patient. Eggs are seldom found in the stool. Eggs are rather small, elongate, ovoid and flattened on one side. By emulsifying a portion of the stool in saline and placing this emulsion in a shallow, white soup plate, the living adult worms can easily be seen floating around on the surface film. Examination of the stool following an enema reveals the adult worms.

Trichinella spiralis—The history of the case is important. Symptoms of nausea, vomiting, diarrhea, fever, colic and sweating in the early stages (7-14 days).

High eosinophilia is suggestive.

Biopsy of muscles; usually the deltoid or biceps muscle, and examined for the presence of larvae.

Recovery of adult worms or larval forms in the feces during the diarrheic stage.

Recovery of the larvae in the blood, spinal fluid or in the mother's milk during the period of larval migration. This usually occurs on the sixth day after infection. Accomplished by placing 5-10 cc. of venous blood in 20 cc. of 2% acetic acid; centrifuge and examine microscopically.

Intradermal test of Bachman.

Antigen—Treated larvae.

Test—Dilution 1:10,000. One-tenth cc. injected intradermally into the skin of the arm. If negative, use a dilution of 1:500. Positive reaction occurs in from 5 to 10 minutes. It is best to conduct a precipitin test as a check, as with the low dilution persons infected with *trichocephalus trichiuris* also show positive reactions.

At autopsy, 40 or 50 grams of muscle from diaphragm digested in the medium of 0.5% hydrchloric acid and 0.7% pepsin for about 5 hours at 37 degrees C. (McCoy[9]) is useful in determining the extent of the infection in fatal cases.

Trichocephalus trichiuris—Recovery of the characteristic barrel- or lemon-shaped eggs in the feces. The eggs are rather small, yellowish in color, and have a double shell with bipolar plugs.

Strongyloides stercoralis—Based on the presence of living larvae in freshly passed stools or the presence of filariform larvae in sputum.

Hookworms, *ancylosotms duodenals, ancylostoma braziliense* and *necator americanus*—Recovery of the characteristic eggs in the stool. These eggs are similar in appearance but typically possess thin shells, are hyaline in appearance and oval in shape with broadly rounded ends. When discharged by the adult female worm they are usually in the 2-8 cell stage of division.

If the stool has been allowed to stand for a day or two, the eggs may have hatched and the resulting larvae must be distinguished from the larvae of *strongyloides stercoralis*. The hookworm larvae, at this stage of development, possess a long pre-oesophageal buccal channel which will immediately differentiate these larvae.

Wuchereria bancrofti—Fresh cover slip preparations of blood removed from the vein each 2 hours for 24 hours and examined microscopically for living larvae. Preparation of a thick and thin film and stained with Mayer's haem-alum stain is desirable. Giemsa's or Wright's stain is also valuable and gives equally good results.

Onchocerca volvulus — In tumour, sterilize the skin, puncture nodule with a syringe and aspirate the fluid. Examine microscopically for living larvae.

No tumour, shave off a piece of skin about 5 mm. in diameter and place in a drop of water on a clean glass slide. The tissue can then be teased apart with needles and any larvae present can readily be detected under the microscope.

COMMENT

"The physician, particularly the pediatrician," states Faust,[3] should have an intelligent conception of the size, number and position of the worms involved, as well as their accepted methods of diagnosing the infection and the relationship to the parasites to the syndromes present. He should understand the relative specificity of various therapeutics and their tolerated doses. Finally, he should have sufficient knowledge of the propagation of these worms within and outside the human body in order that he may the more readily institute measures to prevent reinfections and to remove the danger from others in the community."

University of California

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Infectious Mononucleosis with Jaundice

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ALTHOUGH infectious mononucleosis is rather common and has filled a considerable space in the literature of the last ten years, this series of cases is presented as offering a striking and apparently a rather unusual symptom or complication. The occurrence of so many instances of jaundice in a group of young adults and children is distinctly unusual in private practice. It was still more striking that many of them occurred within the space of two or three months. This was not a solitary observation, for several of our colleagues in the same town and adjoining areas reported that they had seen many cases of jaundice in children.

CASE REPORTS

Case 1. Nov. 28, 1934. J. C., physician, aged 26, with temporarily quiescent pulmonary tuberculosis. About a week prior he had had a period of prolonged exertion, with loss of sleep and exposure, following which and until that date had noticed transient feelings of nausea. On November 27 he noticed enlargement and tenderness of the lymph nodes in the right posterior cervical triangle. On the following day there was also adenopathy of the group on the other side and of the right axillary nodes. At the same time nausea became quite marked and was associated with dizziness, sore and painful eye-balls, and soreness and stiffness of the neck. There was also at this time marked pain in the left maxillary sinus. Dr. Thomas Slayden transilluminated the sinuses and found the left opaque. A nasal pack was placed in position and after removal gave some relief. Lymphatic enlargement progressed rather rapidly and eventually involved the cervical, occipital, submaxillary, submental, axillary and inguinal glands. The epitrochlears were spared, however. Itchiness of the skin was noticed on November 29, but frank jaundice did not appear until December 2. At this time gastric distress was marked with pain of a boring and burning characted in the midepigastrium, which was relieved by alkalis, bismuth and a low fat diet. (The patient had not had any ulcer-like symptoms before.) The liver and spleen were not enlarged, though there was subcostal pain on the right and marked tenderness to pressure in this area and in the midepigastrium. At no time was the temperature found elevated; the pulse remained slow. No cough or sore throat developed. The urine was highly colored and the stools a golden or lighter yellow. Blood Wassermann on December 6 was negative as was the Kahn. Strength and well-being returned in two or three more days, but lymphatic regression was still incomplete on January 1, 1935. Tuberculous adenitis was first considered, but quickly was excluded on account of the generalization of adenopathy. Lues was considered on account of a recent finger wound during an operation. Acute catarrhal jaundice was considered as most probable until the blood count was obtained, and its possibility was further discredited by the generalized adenopathy and the rapid clearing of jaundice. On the basis of blood count, lymphatic leukemia was considered, but the benign course at the time and the jaundice were against such a diagnosis. The lymphatic enlargement, which reached the size of a pecan in some nodes, and the jaundice led to consideration of Hodkin's disease, but the blood count excluded that possibility. Successive blood counts are appended:

Date	RBC	HB	WBC	P	L	B	E
12-3-34	5,100,000	82	14,000	18	82		
12-12-34 ..				25	71		44
12-20-34 ..				55	39	1	5
1-7-35			5,650	63	31		6

Case 2. D. H., farmer, age about 25, 11-14-35. The only significant past history was of an attack of severe typhoid about three years before. He complained of pain and burning in the stomach. He had had severe vomiting, itching of the skin, dizziness and general malaise. He didn't think he had had any fever. The sclerae were definitely icteric, the skin less tinted but still plainly jaundiced; in addition, the skin showed a rather generalized bright red pin-point rash, somewhat resembling that of scarlatina. Temperature at that visit at the office was 98. The physical examination was entirely negative otherwise except for tenderness on pressure in the midepigastrium and along the right costal margin. There was moderate enlargement of the cervical nodes, but no complaint of sore throat and no visible evidence of pharyngitis. The blood count was WBC 7-150, polys 57, lymphocytes 42, eosinophiles 42. Though this count was not striking, the lymphocytes of the smear were definitely abnormal, with plainly lobulated and vacuolated nuclei that took a deep basic stain. One nucleus assumed a dum-bell shape with heavy staining at the ends as if it were a mitotic figure.

Case 3. R. S., a school-boy, about 13 years old, living on a farm and attending a rural school. Had been ill a week when he came in on November 30, 1935. At that time he showed jaundice, pain on pressure in the midepigastrium, enlargement of the cervical and inguinal nodes. WBC 8,950, polys 24, lymphocytes 65, eosinophiles 1. On study of the individual cells, many appeared to be lobulated and a few showed a curious bud-like protuberance of cytoplasm. Subsequently, a case that resembled his in every particular occurred in a sister younger than he. His parents treated her at home without medical service.

Case 4. T. H., male, aged about 3, November 30, 1935. Came in with a history of being ill and feeling badly for several days. There was jaundice of the sclerae with subicteric tinting of the skin. The cervical nodes were very much enlarged, as were the inguinals. WBC 13,050, P 66, L 32, E 2.

Case 5. February 20, 1936, C. B. R., male, aged 11, schoolboy. Had been ill some days complaining of pain in the inguinal region. There had also been vomiting, dizziness, malaise, and light stools. Jaundice was definite and there was a considerable enlargement of the inguinal nodes on both sides. Cervical adenopathy was slight. His mother commented that she kept thinking he was catching cold, but that she didn't become alarmed until symptoms of a cold failed to develop. Urine contained albumin 1 plus, bile pigments, and hyaline casts. WBC 12,000, polys 46, E 4, lymphocytes 50. Another count just five weeks later showed the followng results: RBC 5,390,000, HB 86%, WBC 5,600, polys 33, lymphocytes 61, and eosinophiles 6.

Case 6. October 26, 1935. E. W., female, age 14, schoolgirl. Became ill about a week ago with some

* Deceased.

fever. There was no chill, rash or diarrhea. Stools gradually changed to a golden yellow, while the urine grew dark. The inguinals and epitrochlears were enlarged moderately; the liver was about an inch below the right costal margin and quite tender; there was slight but obvious icterus of skin and sclerae. WBC 7,800, polys 43, lymphocytes 53, eosinophiles 2, plasma cells 2. Subsequently, a sister just younger than she had what her parents thought was the same disease, with glandular enlargement and jaundice, but she was not brought in.

Case 7. V. J., schoolboy, aged about 10, became sick on December 26, 1935, with sore throat (his complaint; there was no evidence of injection when he was seen), vomiting, high fever, pain in the right upper quadrant, and general malaise. No jaundice was present at this time. Eight days later he was seen with enlarged cervical and inguinal nodes and definite icterus. He complained of vertigo, and pain and tenderness in the midepigastrium and along the right costal margin. Urine was negative except for a strong reaction for bile pigment. WBC 9,250, polys 46, lymphocytes 54.

COMMENT

During this same general period we also had four other cases of jaundice in children, but were unable to secure blood counts on them, and one case that preceded case 1 was frankly missed.

In comparison with other series of cases to which we have had access, these are distinguished by the presence of jaundice. A rash was noted only once, though it is reported as common in some series. Only one made any complaint of sore throat and none showed injection of fauces or tonsils or soft palate. One case apparently had a related sinusitis. In the group were two young adults, while the remainder were all below adolescent age. Plasma cells were noted in one case on the first examination, and subsequently a single plasma cell was found in another on re-checking the smears. These cells when present are considered rather characteristic of the disease.[5, 14] All cases showed the peculiar, large, dark-staining and lobulated lymphocytic cells which have been frequently described,[1, 5, 13] and which have sometimes been mistaken for lymphoblasts.

The series is remarkable for the fact that two cases seem to have developed in each of two families an infrequent finding. Like many other series, this one shows a rather wide variation in the number of white cells as well as in the differential.[9] No doubt a partial explanation of this is the period at which the patients were seen. A transitory false positive Wassermann reaction has been noted occasionally,[7] but in the only case on which we secured such a test it was negative. Fever was not a noticeable symptom, only two of our series having had enough to call for comment. The complication of hemorrhagic nephritis[1] or meaturia[6] was not present in any case, though one boy showed a trace of albumin and a few hyaline casts.

As in the case of other series,[6] it was impossible to trace contagion in these cases. They were about equally divided between two and country. Those in town lived in widely separated areas and did not attend the same schools, while those in the rural sections were remarkably scattered to the extremes of a 20- or 30-mile radius. One case in whom the diagnosis was made clinically, but upon whom we could not secure a count, came from a town 150 miles distant. The only apparent cases of direct and evident contagion were the two instances of two cases in the same family, which is not usual.[6]

The jaundice, of course, is the outstanding complication or symptom in this series. Though an occasional case has been reported the largest series we have encountered is that of McKinlay,[11] who found five cases, or 16%, in his series. The fact that we are unable to give any cases without jaundice is not an indication that there were no such cases. Very probably there were many, but due to the economic status of the region such children were treated at home and were not seen at all by physicians. This would be particularly true of the rural communities, where sore throats and slight pyrexias are regarded as pretty much a natural and inevitable symptom of winter.

The question of the cause of the jaundice arises. Apparently it was of an obstructive type, since the few patients on whom we secured red counts showed no evidence of any severe degree of hemolysis. That the obstruction was not complete is shown by the fact that none of the patients admitted to clay-colored stools. It is possible to consider a temporary partial obstruction, perhaps due to some enlarged node in the neighborhood of the comomon bile duct. It is eually permissible to think of the jaundice as a result of systemic toxin, with perhaps an acute cloudy swelling of the liver. That it was not of allergic origin is pretty well indicated by the fact that during the height of the pigmentation eosinophiles were few or absent, while they returned in greater numbers during the period of recovery, a finding which has been noted before.[1]

The jaundice naturally changed the differential to some extent, since it was necessary to rule out acute catarrhal jaundice as mentioned in the discussion of case 1. In case 2, particularly, with his history of typhoid, it was also necessary to rule out glall-bladder disease. The lack of previous history of such attacks, the absence of colic or cramping, the low blood count were against such a diagnosis, while in favor of infectious mononucleosis was the mildness of the attack, the adenopathy, the ready recovery, and the presence of characteristic cells. Weil's disease might be considered a possibility, but it is not common in this country, the course is very much more severe as a rule, it is not accompanied by the changes noted in the white blood cells or by adenopathy. The recovery of the specific organism is possible in many cases. Lymphatic leukemia is commonly given as one of the differential diagnoses, but it is rarely if ever associated with jaundice. The blood count is more distinctive and the course is steadily downward to termination, while all of these patients are alive and

(Continued on page 206)

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WM. B. CANTRELL, M. D.

At the recent annual session of the New Mexico Medical Society in Albuquerque, May 27-29, 1940, Dr. William B. Cantrell was elevated to the presidency, succeeding Dr. George T. Colvard of Deming.

William Brackett Cantrell was born December 15, 1880, on a farm near Smithville, Tenn. His elementary education was obtained in country schools and he was graduated from Smith High School in 1901. In 1907 he was graduated from the University of Nashville, Medical Department, and practiced medicine at Cassville, White County, Tenn., until 1914. He then entered the senior class at the University of Tennessee, Memphis, and graduated in 1915. This same year he came to Gallup, New Mexico.

Dr. Cantrell holds license by examination from New Mexico, Tennessee and Arkansas, although he never practiced in the latter state.

At the beginning of the World War, he entered the U. S. Army and served for 2 years and 2 months. He entered the service as a first lieutenant and came out a major in the Reserve Corps. He has kept up his reserve commission, has had many periods of active training service, was commissioned a lieutenant colonel in 1924 and has been commissioned three times since.

He returned from the army the latter part of 1919 and re-entered the practice of medicine and surgery in Gallup, where he has been active since. He has been president of his local county society twice—once in 1923 and once in 1935.

Dr. Cantrell has taken a great interest in the New Mexico Medical Association and served as vice-president from 1938 to 1939. Also, he has been on the Board of Managers of SOUTHWESTERN MEDICINE since 1937, and was quite helpful at a time when the Rocky Mountain association was about to take New Mexico with them. But it was through him and some others that New Mexico retained primary allegiance to the Southwestern Medical Association.

Dr. Cantrell has been a loyal citizen of his town, county, state and the Southwest. He has been active in Kiwanis Club in Gallup for 20 years and has

served as its president. He has been local commander twice, district commander twice, and department vice-commander twice.

He is now chief of staff in St. Mary's Hospital in Gallup. Professional memberships are: American Medical Association, New Mexico Medical Society, McKinley County Medical Society, Southwestern Medical Association.

ARIZONA INFANT MORTALITY

In Arizona in 1939, 98.8 babies out of each 1,000 born alive died before they reached the age of 1 year—a total of 1,075 infant deaths!

Many of the causes from which these infants died were preventable. Diarrhea and enteritis, the first of these causes of death, could have been prevented, to a great extent, by improved sanitation and rehabilitation. Pneumonia, the second cause of death, may have been prevented by rehabilitation and prevention of exposure. Syphilis, again one of the principal causes of infant mortality, could have been prevented by proper prenatal care for all

mothers, including a blood test for the diseases. Whooping cough, also a principal cause of death, could have been prevented by the simple procedure of immunization and good infant care.

There is no logical excuse for the death of babies from the causes that have been mentioned and from many other causes which take their deadly toll each year. Here, again, lies a problem for each community and the organizations within that community. Here, again, lies the chance to promote education, medical and health organization, and wise and adequate legislation.

Today, through the services of clinics and the efforts of cooperating physicians and through the services and efforts of public health nurses, much has been accomplished in maternal and child health work in Arizona by the health department and associated agencies. However, there is much more to be done in order to make the state a healthier place in which to live—a place in which the lives of infants and children are secure and protected in the light of health.—*Fred P. Perkins, M. D.*

CHOOSING A DOCTOR

Physicians are frequently asked by patients and friends as to how they should choose a doctor to serve them and their families. Most people have some notion of what they want in an automobile, the average person has rather definite criteria by which to judge and choose a new electric refrigerator. But, too often, when a doctor's services are needed, a hit or miss grab is made. And out of the confusion of bell-hop's recommendations, the impression some new doctor made at lodge meeting, the size of the car he drives, the plug of the corner druggist—a choice is accomplished. The random selection may or may not be suitable. It may prove to be a very unhappy one! The point is that few people are aware that a method of selection of a physician does exist—a method as nearly right and sensible as any man-created system can be. Certain qualifications of the physician are highly pertinent in any relationship between him and his patient. Let the patient judge his prospective attendant in the light of (1) integrity, (2) standing in his profession, (3) branch of medicine practiced, (4) skill and experience, and (5) personality. As the president of the Medical Society of New York said recently: "If more people were informed on this subject, doctors would be better doctors, and patients would be better patients," and it can be added that fewer instances of dissatisfaction and disappointment would occur on the part of the patient or the doctor.

The American Medical Association has long performed the preliminary task of casting the quacks and the frauds and the cults into one well-labeled stockade, where the public may read the warning signs. This has been done in the main by the setting up of highly stringent qualifying standards of education and conduct which must be met before membership in the association will be granted. The records thus amassed are open to the public. The interested person can readily ascertain the professional status of any physician by consulting the directory of the American Medical Association, or a request to the secretary of the local medical society will afford the same information. If a physician be listed as a member of the American Medical Association it is certain that he has met high demands, that he has spent long years acquiring his scientific education.

There are not many dishonest men practicing medicine today. The principal wonder is that there are not more, for the credulity of the average person in matters concerning his body, its functioning and behavior is simply astounding. The dishonest doctor does not last long in a community these days—the word about him is spread fast. The hour of discredit and expulsion from the company of his brothers is hastened in its coming by every little piece of dishonesty. In El Paso, for instance, we are aware of but two dishonest doctors, and long ago they were dismissed in disgrace from the ranks of organized medicine. The chances of a patient selecting a dishonest doctor are becoming less and less as each year passes. As more people understand the purpose and the workings of the American Medical Association there is simply more demand by the public that their physicians be members of that association. And the sub-par practitioner does not last long in organized medicine. He must conform in conduct and standards or be ejected. These ejectees, by the way, are the ones who cry "persecution," when retribution visits them for their own omissions or commissions.

If the physician practices a specialty, what training has he had in his particular branch? And does he keep abreast of the changing times in his specialty? Does he attend, habitually and often, the scientific meetings of his medical associations and specialty societies? Does he spend regular time in laboratories and special schools? The specialist who "took a course in Vienna," with perhaps most of his course coming on cruises down the Danube or towns in Italy, and then came back with a trunk full of imposing diplomas to gather dust along with his thinking is a phenomenon of the past. To the basic training in his specialty the man of real value to his community adds constant attendance on clinics, graduate sessions, specialty societies. He contributes to medical literature. He is alert, aware, critical. It is not difficult to find out whether the specialist one has in mind is this type of physician or not. The man who is about to choose a specialist can readily determine just how progressive is the man he is judging.

What about skill and experience? These qualifications are admittedly difficult to evaluate in individual cases. Skill must be accompanied by good judgment. What societies have invited the physician to membership? What doctors in the community use him for their own patients? In other words, what do his fellows think of him? What are his hospital connections? Is he principally an "of-

(Continued on page 207)

Special Section

Arizona State Medical Association

PRESTON T. BROWN, M. D., *Associate Editor*
403 Professional Bldg., Phoenix, Arizona

THE WOMAN'S AUXILIARY

ANNUAL MEETING, APRIL 18-20, 1940

The tenth annual meeting of the Woman's Auxiliary to the Arizona Medical Association was held April 18-20, 1940, at the Santa Rita Hotel in Tucson.

Mrs. V. G. Presson of Tucson, president, presided over all of the meetings. The invocation was given by the Rev. Rush M. Deskins, D. D., of Tucson.

Mrs. Alvin Kirmse, president of the Pima County Medical Auxiliary, extended a very gracious welcome, and the response was given by Mrs. C. C. Craig of Phoenix.

REPORTS OF OFFICERS

President's Report—The report showed that there are now only two auxiliaries in the state, but that these two seem more firmly established and their accomplishments quite worth while. The membership this year was 134, which was a fractional growth over the previous year. The programs have been both social and educational. Both units have taken part in community work, such as the Community Chest, Red Cross roll call, and other civic welfare work. Mrs. Rollo K. Packard, the national president, was in Phoenix in December, at which time a board meeting was held. A luncheon was given in her honor, and it was a real pleasure and a great inspiration to have her with us.

First Vice-President—Since the first vice-president is also chairman of membership and organization, Mrs. Hayden's report told of there being two organized Auxiliaries in the state, and that attempts had been made to organize other but with no results.

Second Vice-President and Program Chairman—This report showed that the program and legislative chairmen have worked with the public relations chairman in presenting, not only to lay organizations but to our own Auxiliary members, the attitude and aims of the American Medical Association on the National Health Bill, and to acquaint not only the public but ourselves with the means for acquiring information on health.

The following committee chairmen gave their reports:

Cancer Project—Mrs. Alvin Kirmse.

Exhibits—Mrs. Hervey S. Faris. This report told of the plan to send two dozen cactus spoons as our exhibit to the National Auxiliary Convention in New York City in June.

Hygeia—Mrs. Joy A. Omer. Forty-eight Hygeia subscriptions have been sent in during the year.

Legislative—Mrs. James R. Moore.

Public Relations—Mrs. Joseph Madison Greer.

Publicity—Mrs. R. A. Wilson.

Mrs. Delbert L. Secrist, chairman of the entertainment committee, was introduced. She gave the details of the entertainment plans.

Mrs. S. H. Watson gave the report for the nominating committee, and the election of officers followed.

The report for the Maricopa County Auxiliary was read by its president, Mrs. John W. Pennington. Mrs. J. B. Littlefield, the outgoing president of Pima County Auxiliary, read their annual report.

The guest speaker on the Thursday program was Dr. Edward L. Dorsett, assistant professor of obstetrics and gynecology at St. Louis University College of Medicine.

A surprise number on the program Thursday morning was an informal talk on the movies by Mark Freeland, publicity director for the Columbia Motion Picture Company.

After the business meeting the guests had luncheon at the Pioneer Hotel. Door prizes were won by Mrs. R. M. Stump of Phoenix and Mrs. Hervey S. Faris of Tucson. Mrs. Stump's prize was a purse from the House of Hartwig and Mrs. Faris' was a beauty kit from the Martin Drug Company.

A style show by the Co-ed Shop followed the luncheon, and later in the afternoon the guests were taken to tea at the Veterans' Hospital.

At Friday morning's session Mrs. Robert B. Homan of El Paso, Texas, past National Chairman of Archives, gave a very interesting talk. Her subject was, "Interesting Items from the National Archives."

Dr. Charles F. McKhann, associate professor of pediatrics and communicable diseases, Harvard University Medical School, also talked at Friday morning's meeting. He based his talk on his experiences in China.

Because of the many questions asked about the National Health Act, Dr. J. D. Hamer of Phoenix was asked to come to the meeting to explain the bill and to tell the Auxiliary members why the American Medical Association objects to it.

Mrs Donald Lewis presented the following courtesy resolutions: Whereas, the Auxiliary of the Pima County Medical Society and the Pima County Medical Society have so graciously entertained the members of other counties and visitors during their stay in Tucson, therefore, be it resolved that we extend to them a note of appreciation, and that these resolutions be entered in the minutes and a note of thanks sent to the following: Rev. Rush M. Deskins, Dr. Edward L. Dorsett, Mrs. Robert B. Homan, Dr. Chas. F. McKhann, Mark Freeland, Mrs. S. H. James, Santa Rita Hotel, House of Hartwig, Martin Drug Co., Elmo Co., Life Savers Corp.,

President's Page

"Wherever the art of medicine is found,
there also is found a love for humanity."

THIS month will see the American Medical Association in annual session, the meeting being concluded by the time this article appears in SOUTHWESTERN MEDICINE. At this annual session, the House of Delegates will act upon the proposal of the association for the medical care of the low-income group. The House, no doubt, will approve the plan. Something like a dozen states now have such plans for the care of this class, some of the plans meeting with success, while others, identical in provisions, are not progressing, due to the fact that the class to be benefitted is apathetic toward them. It seems to be human nature to cry for something not possessed, but, immediately possession is assured, to lose interest in the desired article or status of being, and set up a clamor for something else.

The general plan proposed by the American Medical Association includes the best features of the plans now in operation. It must be remembered, of course, that plans now in effect have had the direction of the American Medical Association. The pattern for medical care now to be afforded will provide Arizona and other states not operating under such plans an opportunity for putting one into effect as occasion may demand.

It is urged upon the membership that each read and study the accounts of the proceedings of the various committees and bureaus of the American Medical Association as they appear in the Journal of that organization. Study will do much toward breaking down present apathy or discontent on the part of some within the profession and provide them with an understanding that will enable them to advise and assist rather than to criticize. Each and every physician must study to understand and to help or the practice of medicine will be politically subsidized.

The true physician is an embodiment of the statement that, "Wherever the art of medicine is found, there also is found a love for humanity." Exercise that art and love in the practice of medicine and there will be little to fear from the changing order. Exercise the love for the "dollar" in the practice of medicine and there is everything to fear. The hardest problem of organized medicine today and for the future lies not in the necessity for readjusting our economic set-up, but rather in holding to high ethical standards in the demoralizing effect of commercialization.

The physician is taught from the outset, as the American Medical Association in its various deliberations and proposals is constantly pointing out, that medicine exists for the benefit of the afflicted and not the afflicted for the benefit of medicine. The plan of medical care as proposed by the American Medical Association is presented in that spirit, and in that spirit it should be received.

Fraternally yours,

D. F. Harbridge

President, Arizona Medical Association.

Luretone Corp., Wm. Wrigley Co., H. J. Heinz Co., and Constance Bennett.

Installation of officers was the last item on the program, the new officers being: President, Mrs. J. D. Hamer, Phoenix; president-elect, Mrs. B. B. Edwards, Tucson; first vice-president, Mrs. Alvin Kirmse, Tucson; second vice-president, Mrs. O. W. Thoeny, Phoenix; recording secretary, Mrs. Delbert L. Secrist, Tucson; treasurer, Mrs. D. A. Polson, Phoenix; director, Mrs. V. G. Presson, Tucson.

All members of the Auxiliary were invited to participate in a contest for the best 100-word essay on the subject, "Should a Doctor Take a Wife?" The prize was a copy of Clarence Budington Kelland's "Arizona," and was given by the Columbia Motion Picture Company. Nine members submitted essays. Mrs. Victoria Thompson of Tucson was declared the winner of the first prize, with an essay in which she upheld the affirmative but listed the many qualifications which a woman must have before she can be a success as a doctor's wife. Mrs. Leslie B. Smith of Phoenix and Mrs. Clyde E. Flood of Tucson won second and third prizes.

Friday noon a lovely luncheon was enjoyed at the El Conquistador Hotel. The program consisted of musical numbers by Mrs. C. Wayne Clampitt and readings by Alethea Smith Mattingly of the University of Arizona. Hostesses were Mrs. Roy Hewitt Mrs. B. P. Storts and Mrs. Clyde Flood.

The concluding event was the dinner-dance at the Santa Rita Hotel Friday evening, which was preceded by a cocktail party at the same place.

The following appointments have been made by the President, Mrs. J. D. Hamer, for the coming year:

Corresponding Secy.	Mrs. Thomas H. Bate, Phoenix 537 W. Cypress St.
Committee chairmen:	
Cancer Project	Mrs. Alvin Kirmse, Tucson 1301 N. Forgeus
Exhibits	Mrs. Hervey S. Faris, Tucson 30 Palomar Dr.
Hygeia	Mrs. Joy A. Omer, Tucson 2648 E. 7th St.
Legislative	Mrs. James R. Moore, Phoenix 1117 W. Latham St.
Public Relations	Mrs. Joseph M. Greer, Phoenix 765 E. McDowell Rd.
Parliamentarian	Mrs. C. A. Thomas, Tucson Santa Rita Hotel
Publicity	Mrs. C. C. Craig, Phoenix 727 Encanto Dr., S. E.
Historian	Mrs. George Irvine, Tempe 120 W. 7th St.

Members of the Arizona Medical Association on the advisory board are: Dr. Harley Yandell, Phoenix, Dr. H. W. Kohl, Tucson, and Dr. Jack B. Eason, Phoenix. Directors serving unexpired terms are Mrs. C. E. Patterson, Tucson, and Mrs. George C. Truman, Mesa.

Delegates to the national convention of the Woman's Auxiliary to the American Medical Association are Mrs. H. W. Kohl of Tucson and Mrs. Leslie B. Smith of Phoenix. The alternates are Mrs. V. G. Presson of Tucson and Mrs. James R. Moore of Phoenix. Other members planning to attend the meeting are Mrs. Delbert L. Secrist of Tucson, Mrs. E. Payne Palmer and Mrs. J. D Hamer of Phoenix.

INFECTIOUS MONONUCLEOSIS WITH JAUNDICE

(Continued from page 201)

well, except for unrelated disease. Hodgkin's disease may be accompanied by jaundice, but not at all by the type of blood counts we encountered in these cases. Pel-Ebstein fever is characteristic, while the nodes are much more massive and tend to remain enlarged.

Lacking to prove beyond doubt that these were all cases of infectious mononucleosis is the heterophile antibody reaction,[3, 4] which we were unable to use on account of the difficulty in keeping a fresh supply of sheep cells, and because in nearly all these cases we saw the patient but a single time at the office. However, we feel that this test is by no means absolutely necessary, since it serves only to rule out lymphatic leukemia or to differentiate from a chronic infective adenitis, which can be satisfactorily eliminated by study of the cells.

The fact remains that infectious mononucleosis, as we know it now, is an exceedingly complex and multiform disease. Though various attempts at classification have been made,[5, 11] it is possible that we may be in danger of taking too much for granted. Perhaps the disease is not a single entity, but two or more closely related diseases. The extremes of types, from those with sudden and severe onset to those with almost no constitutional reaction, from those with petechiae to those with no apparent rash, from those with membranous angina to those with jaundice and no sore throat, from those with very slight adenopathy to those with massive, from patients with the complication of hemorrhagic nephritis to those with no abnormal urinary findings, indicate that if these are conditions are not diverse infectious mononucleosis if capable of the most astounding variety of manifestations.

CONCLUSIONS

1. A series of cases thought to be infectious mononucleosis with jaundice is presented, with direct and differential diagnosis.

2. A characteristic cell is described from our slides and from the literature.

3. The occurrence of two cases each in two families is noted as being unusual in so small a series.

4. The remarkable variations of the disease are noticed and the suggestion is made that the disease is not a single entity.

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CHOOSING A DOCTOR

(Continued from page 203)

fice operator"? Sometimes this very habit stamps a physician as being unwilling to work under the open scrutiny of his fellows in an accredited hospital. And this possibility should lead to probing questions before his selection. Is the man a habitual price-cutter? Then good reasons should be established before selecting him—for usually fire-sale or cut-price merchandise is rather shoddy stuff. Perhaps this man cuts prices as a business move to shove off inferior ability on a public not too discriminating in its methods of judgment and selection. What class of people constitute the bulk of his practice? Are they among the more intelligent group of the community? In other words, has the more discriminating element placed its seal of approval on the prospective attendant by choosing him to minister to them?

Is he quietly confident, sympathetic, understanding? Or does he vaccilate, make glib claims, boast of marvelous cures, too obviously attempts to sell himself as the possessor of special secrets? Is he continually disparaging in his comments regarding other physicians, or is he too busy to pay a great deal of attention to the other man's business and shortcomings? Is he the type of man one would be proud to call one's physician, or does the mentioning of his name conjure a half-apology from the lips of his patients?

The delicacy and vital importance to all concerned in this matter of choosing a physician should lead to thought by medical men as to how best to advise the next person who asks how he is to know the best way of selecting a doctor for himself or his family. An intelligent, patient exposition of some of the criteria mentioned, plus others gathered by experience, will accomplish a great deal of good in the general field of physician-patient relationship.

SOUTHWESTERN MEDICINE FINANCIAL REPORT

Period of January 1 - June 1, 1940

A semi-annual financial statement for SOUTHWESTERN MEDICINE will appear henceforth in the June and January issues. Herewith is the financial statement for the period of January 1 - June 1, 1940:

TOTAL RECEIPTS ALL SOURCES

Balance, Jan. 1, 1940		$1,246.01	
Subscription Dues:			
Arizona	$752.00		
New Mexico	20.00		
S. W. Med. Assn.	150.00		
		922.00	
			$2,168.01

TOTAL DISBURSEMENTS

Editor	$512.00		
Secy's office, stamps, supplies, expense	135.00		
Printer	115.36		
		762.36	
			762.36
Total balance, June 1, 1940			$1,405.65

Note: Subscription dues listed are for receipts for period indicated only, El Paso Society and New Mexico having remitted $240.00 and $492.00, respectively, for previous period. The period June 1, 1940, to Jan. 1, 1941, will include further subscription dues for the current year.

Circulation, as of June 1, 1940 978

Respectfully submitted,

D. F. HARBRIDGE, M. D., Secy.-Treas.,
Phoenix, Arizona.

PROCEEDINGS OF EL PASO COUNTY TUMOR CLINIC

March 26, 1940

EL PASO CITY-COUNTY HOSPITAL

Present: Drs. Branch, Cathcart, Causey, Hardy, Peticolas, Smith, von Briesen, Waite, Webb, Powell.

Case 1. C. S., a 16-year-old Mexican girl who had had an adenocarcinoma removed from the left breast in January, reported again today, with another tumor in the same breast.

Dr. Hardy: It is rather an important thing to discuss, as so many young women, probably "cancer conscious," come to us with these benign growths in the breast. I would like to know what treatment is recommended.

Dr. Cathcart: The probability is that this is fluid and that aspiration will clear it up. This thing has come on since January.

Recommendation: Try aspiration on this second tumor.

Case 2. L. D., 49-year-old negress with tumors of larynx and pharynx, who was seen in tumor clinic February 2, 1940, was brought in again today, in a wheel chair. She is at present in the hospital, in the medical ward. It was reported that she had been on antiluetic treatment since February 16, and that her hemoglobin is now only 56%. A biopsy had been taken, which showed a "chronic inflammatory condition." Patient's throat today appeared to be improved, but her general condition is much worse than when last seen in tumor clinic.

Dr. Smith: If she is to be treated for possible gumma I think that the treatment should be pushed a little more. It is better to go slowly so as not to get too rapid a healing, with resultant scar formation, but I think it should be a little faster than at present.

Recommendation: Another chest x-ray. 1½ cc.

of bismuth subsalicylate once a week intramuscularly. Leave off the mercury. Continue potassium iodide by mouth. Give blood transfusions. Blaud's pills. Check up on her to see if she eats; if not, give her some food that she can handle.

Case 3. R. G., 66-year-old Mexican man who has been coming to tumor clinic occasionally since July 11, 1939, reported again today. His entire right cheek is greatly swollen and very tender to touch. The left axilla also is very tender.

Dr. Cathcart: This old scar on the right cheek below the eye is from an auto accident some years ago. He has had a slight drainage from it ever since, and I believe this sinus has been stopped up. Possibly a sinus from the parotid, and I think there may be parotid fluid in there. I think he should be given the benefit of surgery on this left axilla, and some novocaine put into that cheek and drainage re-established.

Recommendation: Surgery for the left axilla. Drainage to be re-established in right cheek. X-ray of chest.

Case 4. M. J., case reported by Dr. Powell, and autopsy findings by Dr. Webb.

Dr. Powell: The patient was a Mexican woman, a housewife, 39 years of age. No history was obtainable as patient was in coma on admittance, and was not reliable when she did regain consciousness.

Physical examination: Patient was in poor general condition. Temperature, 98.2 (r.); pulse, 52, weak; respirations, 28. She was well nourished. Comatose. Pupils did not react. Left pupil dilated and irregular. Right pupil pinpoint. Teeth very carious, with abscesses. Throat could not be examined. Upper lids semiptosed. Neck negative. Both lung fields essentially clear. Heart: Rhythm regular. Rate slow. No apparent valvular defect. Abdomen: No apparent areas of tenderness. Mass palpable from symphysis to umbilicus, apparently the uterus. Normal female external genitalia. Skin showed a scaly mascular rash over the shoulders posteriorly. Bones and joints, and glandular system, negative. Neuromuscular: Upper extremities spastic, with increased deep reflexes. Deep reflexes increased in lower extremities. Positive Babinski. Superficial reflexes lost. No nuchal rigidity. Pupils as described.

A working diagnosis was made of (1) encephalitis, probably epidemic, (2) pregnancy.

Laboratory findings: March 6, 1940—Urinalysis: Innumerable wbc, slight trace of albumin. Blood: rbc, 5,330,000; wbc, 13,000; hgb, 86%; polys, 88; lymphos, 2; Kahn, negative. March 7, 1940—Spinal fluid: wbc, 3 cells; amount and appearance, 5 cc., clear; sugar, positive; globulin, a trace; Kahn, negative. March 11, 1940—NPN, 60.

Patient regained consciousness the day after admission, but was stuporous, and lapsed into coma again in a few days. She expired on March 16, 10 days after admittance.

The final diagnosis (clinical) was encephalitis, or possible brain tumor. The abdominal mass which was at first thought to be a pregnancy was found to be distended bladder.

Dr. Webb: Autopsy showed thoracic, pelvic and abdominal viscera essentially negative. The brain, on the surface, showed nothing to suggest intracranial lesion, but on sectioning it we found two tumors, one in the occipital lobe deep in the brain substance, and one in the parietal lobe just beneath the cortex. Spongioblastoma is sometimes diagnosed as encephalitis or apoplexy. The diagnosis is often mistaken.

Diagnosis: Glioma of left cerebral hemisphere.

SPECIAL ARTICLE

MEDICAL FOOTNOTES DURING ORIENTAL WANDERINGS

NELSON D. BRAYTON, M. D.
Miami, Arizona

There are 70,000,000 of these Japanese scattered over Japan's main islands, and her Asiatic colony of Korea, now called Chosen, accounts for 20,000,000 more.

They are little people. Their street cars, their buses, their railroad trains, their doors in their homes are built low. Their opera seats, their restaurant chairs, their beds in the "foreign hotels" are all smaller than the European or American. Their personal physique is that of a diminutive race, but their intellect their capacity of vision and foresight, their capacity of enjoyment, their ego and their numbers stamp them with the major nations of the world.

This capacity to initiate and their ability to imitate has been creative of the new Japan. Universities of 10,000 students, schools of medicine, dentistry, education, arts and sciences, economics, navigation and philosophy abound, and their scientific acumen has been proclaimed by all in their national heroes of medicine, *Kitasato-Nogouchi-Shiga.*

A race of 90,000,000 progressive, happy people has to be recognized and their scientific discoveries must be analyzed, their application of facts to hygiene must be scrutinized, their initiative characteristics must be challenged. Let us analyze some of their applications of scientific facts to the practice of hygiene and medicine.

Leprosy—Yes, Japan has its lepers; 20,000 plus. The imperial government has given one island to their care and cure. There are 6,000 on Deer Island alone, with a staff of seven doctors, 300 attendants with a family life of over 1,000 more, to assist in care and attention. This is purely a federal project, and only for the main island. In Korea alone there are four other leper hospitals managed by the British or American leper missions, which take care of 4,000 more. Off the mainland in the Inland Sea is another large leprosorium.

Statistics (like photography in Japan) are not available of this island. But conservative estimates place the number throughout Japan at 11,000 confined lepers, with an equal number on the outside. Recently an epidemic of leprosy was reported in the troops in China, and, although denials were in order, the medical officers promptly requisitioned large quantities of Chaulmoogra oil.

Tuberculosis is another vexing problem. Estimates of 3,000,000 active cases of tuberculosis are given and no sanitoria are available. Milk is not easily procurable in Japan. Fats from animals are practically unknown. Oil of soy bean extract is used extensively and fish is their natural proteid diet. Thus occurs the early breakdown and demise of many of the youth of the country.

Recently an attack of influenza which gripped Japan called for the wearing of nose and mouth masks. All Japan seemed to be muzzled, and babies as well as grandparents proceeded around their homes or businesses with these curious nose and mouth masks. In the country village the belief is universal that the evil spirits of disease are kept out of the body by this process of straining the air. Even at that, this is a step in advance of praying before a shrine or eating some nauseous lizard to prevent disease.

The social evil in Japan—As it is popular nowadays to talk of our social evil problem in polite society, due to our Thomas Parran expose of our theoretically high syphilitic rate, it may not be out of place to mention the problem of the social evil in Japan.

It is a police problem in Japan. Yoshiwara girls, Geisha girls and waitresses—the three classes who are most prone to transmit venereal disease—are all licensed by the government. The last available statistics showed 173,000 so licensed, Japan having followed the lead of those European nations in licensing and regulating a vice which no government has ever eradicated. Three different movements in the diet to change this position of Japan is regard to regulated vice have failed. Regularly inmates of the Yoshiwara districts must submit to biweekly bacteriological or serological and medical examinations. At least 60,000 of them are so examined every week. In addition, ordinary preventive measures and contraceptive articles are sold openly at special stores and are made easily procurable for the masses. The army and the high schools teach the results of promiscuity. Japan does not have a high venereal rate.

Obstetric cases are still cared for in the majority of cases by midwives. In the larger cities some of the women employ physicians. This is not the rule. The humor of this serious branch of medicine is augmented by the fact that there is a national system for the disposal of placentas. For a fee of 50 sen (10 cents) the police of the prefecture in which the child is born and registered receive the placentas and direct their removal to the proper crematory, where they are destroyed. Placentas must be disposed of within 24 hours of the birth of the infant, and if not so disposed of the midwife loses her license. As there are no privies or sewer systems in Japan (even in the large cities, such as Tokyo or Osaka) where these placentas might be made way of it is easily seen that a central placenta disposal bureau is a very necessary addition to the governmental bureaus.

This brings us instantly to the question of hygiene and sanitation. In common with all other sewerless oriental nations, Japan has her vexing sanitary problem. The adequate disposal of night-soil is her next great problem. With all her advancement shown in every other field of scientific endeavor the question naturally arises: Will she assume responsibility and put in a modern sanitary and toilet system?

I think not. In the first place, sewer systems are expensive. So is war, and Japan has a large size war on her hands. In the second place, the people cannot be easily educated to use modern conveniences. In the third place, they use the eliminative products of human digestion for fertilizer. Night-soil is highly prized for urban use. Along the highways are frequent open toilets and latrines which drain into large 50-gallon crocks. The privy tender comes along with his tin ladle, removes the droppings. They are placed upon the farmer's land, and presto—abundant fields of fresh vegetables, rice or grain.

Such practices may be abhorent to western noses and civilization, but they are the practice in old Japan. And how else is a country which is straining every economic sinew to conserve its nitrates for the purpose of war going to fertilize its land? Truly, night-soil must be conserved, and the small army which handles the kegs and barrels of this human refuse in a country which has only a few cows and horses must be admired if at the same time they are to be pitied. While it might be that the introduction of a few hundred modern Standard Oil, Texaco or Shell stations would serve as object lessons in sanitation, it is very dubious in my mind that the agriculturists would submit to any such sanitary revolutions.

Despite these humiliating observations we must not consider Japan a backward medical nation. Any country that has produced a Shibasaburo Kitasato (discoverer of the plague in 1894), any country which has mothered a boy with a withered, shriveled arm, whose function was all but destroyed by fire, and yet who rose to pilot the fame of Rockefeller Institute to the four corners of the earth, as did Hideyo Noguchi; and country that has produced Kiyoshi Shiga, who discovered the Shiga bacillus of dysentery and its accompanying serum as a curative measure; any country which has a St. Luke's (Tokyo) Hospital in its midst; any country which boasts the Imperial Epidemic Laboratory, where are conducted various bacteriological researches relating to epidemics and other diseases; any country broadminded enough to present through popular subscription a laboratory, the "Kitasato Institute," to one man in honor of a

great epidemiologic bacterial discovery, is anything but a backward nation.

And so in passing on into China after visiting in Taiku, Korea, the leper hospital organized by Dr. Archibald Fletcher and which boasts the only leper preventatorium in the world for children untainted but born of leprous parents, and where Mr. and Mrs. O. Vaughn Chamness of Phoenix, Arizona, are engaged in practical missionary training and rehabilitation of its inmates, we salute the discoverers and explorers, these heroes and laboratory workers who have immortalized their names in Japanese medicine and saved the lives of countless millions on the face of the globe.

Kitasato, Nagouchi, Shiga! Here in old Japan we bow in humble reverence at the medical shrines of those who have caused to be carried the torch of learning and scientific accomplishment to the four corners of the earth.

Ed.—This article, interesting, timely, is printed as submitted.

COMMUNICATIONS

Sir:

We have received and thank you for the copy of the January, 1940, issue of SOUTHWESTERN MEDICINE, which you sent in response to our request of April 23. We are grateful for the space you gave, on pages 23 and 31, to the piece on "1940 Census."

Tabulation of returns from the field on the 1940 census is just now beginning. Within a few months considerable information on the nation's population, resources and trends will become available. It is the function of the periodicals service section to serve editors of periodical publications who may request the information that is contained in the census records. We want to give you this service at any time you may care to call on us. We will be grateful if you will let us know those things which are of especial interest to you, so that we may supply you as advantageously as possible.

Sincerely yours,

ROSCOE WRIGHT,
Chief of Public Relations.
By A. W. von Struve, Periodicals Service Section.

Sir:

The Big Bend Medical Society met May 7 in Sanderson, Texas, with Dr. R. E. Lester and Dr. J. Campbell Kern, president of the group, as hosts. The program presented consisted of a paper and lantern-slide demonstration on "Gastroscopy" by Dr. Norman Giere, El Paso; report of a case of gastric hemorrhage by Dr. Malone Hill of Alpine; "Allergy," by Dr. Orville Egbert, president of the Southwestern Medical Association, El Paso.

Questions and discussion by those present added much to the value of the papers presented.

The work of the National Physicians Committee for the Extension of Medical Service, particularly the educational campaign now in process of development through display presentations in the *Saturday Evening Post* and other magazines, was discussed by Dr. Joel Wright, the secretary of the society. One attractive double-page display will appear in the Saturday Evening Post during the week of the Republican national convention and another during the week of the Democratic national convention.

The Alpine group invited the doctors to meet in Alpine for the next regular meeting in June.

Dr. Egbert gave the doctors a cordial invitation to attend the clinical congress of the Southwestern Medical Association in Tucson, Ariz., in November.

Those present at the dinner given by Drs. Lester and Kern were: Dr. Egbert and Dr. and Mrs. Giere, El Paso; Dr. Maurice Barrett, Fort Stockton; Drs. Jeter, Hill, Lockhart and Wright, Mrs. Wright, Mrs. J. D. May, Alpine; Dr. and Mrs. Kern, Dr. Lester and Mrs. Walker, Sanderson. Dr. Gipson, Fort Stockton, joined the group during the program hour.

JOEL WRIGHT, Secy., Alpine, Texas.

NEWS

General

According to the American Journal of Clinical Pathology, numerous complaints have reached the Registry of Medical Technologists regarding the activities of a person in Red Bank, N. J., who has launched an organization styled the "American Medical Technologists," which purports to issue certificates of qualification. It is soliciting membership especially among graduates of non-approved schools or those who are eligible for examination by the standards of the registry.

This person has never taken the registry examination, but assumes the designation of M. T. after his name in his drive for membership. He has also presumed to give approval to a number of commercial schools which are not approved by the registry.

This enterprise is not sponsored by any scientific society, but appears to be motivated by commercial aspects, as a $5.00 registration fee is solicited from those desiring to join.

To obviate any confusion of this movement with the work of the Registry of Medical Technologists of the American Society of Clinical Pathologists, the warning is issued to all interested in maintaining high standards to disseminate the information about the standing of the so-called "American Medical Technologists."

The old autopsy house where Osler worked at

Blockley has been restored as the Osler Memorial Building, and will be dedicated on the grounds of the Philadelphia General Hospital, at Curie Ave., near 34th and Pine Sts., Philadelphia, Pa., at 2 p. m., on June 8, 1940.

Original furnishings, including the necropsy table, have been collected. The painting by Dean Cornwell, N. A., of New York, entitled "Osler at Old Blockley," later to be hung in the building, will be on exhibition during the celebration.

There are facilities in the building for the housing and preservation of relics of old Blockley, as well as Osleriana. The committee would welcome any additions to this collection.

A cordial invitation is extended to those who are interested, and especially those who are planning to attend the American Medical Association convention in New York City June 10 to 14.

El Paso

A regular staff meeting of the Hotel Dieu Sisters' Hospital was held Tuesday, May 7, 1940, at 12:10 p. m., in the auditorium of the nurses' home. Luncheon was served. The program was as follows: "Generalized Exfoliative Arsenical Dermatitis," Dr. R. P. Hughes. Discussion, Dr. Earl Rogers. "Fracture of Right Humerus, Compound Comminuted; Gunshot Wound Chest Wall," Dr. Louis Breck. Discussion, Dr. J. L. Stowe.

A regular meeting of the City-County Hospital staff was held Wednesday, May 15, 1940, at 6:30 p. m., at City-County Hospital. The program was as follows: "Case of Perforated Ileum," Dr. J. D. Peticolas. "Case of Focal Necrosis of the Liver," Dr. J. Mott Rawlings. Discussion of both cases by Dr. W. W. Waite.

A regular meeting of the El Paso County Medical Society was held May 13, 1940, at 8:00 p. m. in the tea room of Hotel Cortez. The program was as follows: "Dissecting Aneurysm of Aorta," Dr. G. Werley. Discussion by Dr. W. W. Waite. "La Peyronie's Disease," Dr. D. von Briesen. Discussion by Dr. W. R. Curtis.

Dr. M. P. Spearman, of El Paso, left May 27 for Pensacola, Fla., where he will take a post-graduate course in aviation medicine for six weeks at the Naval Air Station. Dr. Spearman is a lieutenant in the Naval Reserve.

A regular meeting of the El Paso County Medical Society was held May 27, 1940, at 8:00 p. m. in the tea room of the Hotel Cortez. The semi-annual business meeting was held. This was the last meeting before summer vacation.

AUXILIARY NEWS

Mrs. James W. Laws, who was installed as president of the Woman's Auxiliary to the El Paso County Medical Society at the annual luncheon at the Country Club, Monday, May 20, 1940, announced her assisting committees. They are: Mrs. Arthur Black, general health and program; Mrs. Henry Safford, public relations; Mrs. Robert Thompson, child welfare; Mrs. Paul Gallagher, vital statistics; Mesdames B. F. Stevens and J. A. Rawlings, weed eradication; Mrs. W. E. Vandevere, social; Mrs. Will Rogers, courtesy; Mrs. H. H. Varner, music; Mrs. W. W. Britton, telephone; Mrs. A. D. Long, physical examination; Mesdames J. L. Murphy and Francis Snidow, year book; Mrs. Louis Breck, publicity; Mrs. Gerald Jordan, historian; Mrs. R. B. Homan, parliamentarian; Mesdames Orville Egbert and T. C. Lidell, ways and means; Mrs. J. W. Cathcart, "Hygeia"; Mrs. Ralph Homan, decorations.

MISCELLANY

AVIATION MEDICINE AND OPHTHALMOLOGY

The latest development of a specialty in the profession of medicine is Aviation Medicine. Its outstanding subjects are ophthalmology, otolaryngology, psychology and internal medicine. It embraces particular phases of these divisions of the art.

Recent wars have clearly demonstrated that the nation having supremacy in the air will have its adversary at its mercy and may be enabled to destroy him. To achieve such supremacy mechanical equipment is of great importance and requires the greatest effort and the longest time. The selection of young men for this highly technical work can be done only by physicians well trained in the particular methods of examination. Our country has only too few doctors so trained. The experts in this field are largely in the Medical Corps of the Army and the Navy and the Civil Aeronautics Authority. Since they have had the widest and largest experience in the field of aviation medicine, they are obviously highly qualified to instruct the civilian personnel where but few have had such opportunities. There are many thousand pilots to be trained for the increasing demands in civil and civil-military aviation, and the Air Corps of our Armed Services are undergoing great expansion.

With the world aflame with war and all the hatred and insane murderous rage it engenders, it behooves our country to prepare for any emergency. It is not impossible that we, too, may have to fight for our very existence and the lives of those dearer than life to us. Preparation for warfare in the air and particularly the training of pilots requires much time. The selection of those

qualified to take such training requires particularly endowed physicians who must themselves be trained in this new art.—*Med. Ann. D. of C.*

MEDICINE FOR SALE

And now the great American public hears about medicine from Boston—

"The home of the bean and the cod
Where Lowells speak only to Cabots
And Cabots speak only to God!"

But when, abandoning precedents of immemorial antiquity, a Cabot addresses the Dependency as on page 32 et seq. of the *American Magazine*, April, 1940, in an article entitled "Give the Patient a Break," with cartoon illustration, the ordinary or working physician can only pray that some day the venerable and time-honored social customs in Boston will be restored.

Dr. Cabot designates himself a reformed criminal: "At the end of that year I realized I was making considerably more money than any honest man ought to." He admits that when young he played happily with the dirty little boys on the wrong side of the railroad tracks, but—he is 30 years older now. And from the experience, the wisdom gained in that time, he pleads: "Give the Patient a Break." After a thundering excoriation of the profession, he shouts "thousands of Americans will have to make a Hobson's choice between third-rate medicine and bankruptcy." Unless, of course . . .

Unless, they take Dr. Cabot's favorite prescription of group-medicine. The special pleading of the salvationists has been harrying the public along three main lines in the recent journals:

High Cost . . . private practice . . . to hell with it.
Low Cost . . . group practice . . . good
Free . . . . . State Medicine . . better yet.

In the last analysis it is the character of individual practitioners which is the safeguard of the public interest, not the system of practice. But, private practice has in the past because of its moral pressure, produced that character in physicians in spite of well-publicized failures. It is still to be shown whether group practice, with its divided responsibility and its buck-passing potentialities, can meet, by and large, the requirements for good medical service everywhere in the Nation. Enthusiasm is a good thing, but facts and character have their place, too, in medicine. Give the Patient the Truth!—*Westchester Med. Bull.*

SULFAMETHYLTHIAZOL

Although still in the experimental stage, Sulfamethylthiazol is gaining clinical support. Originally developed and already proved to be efficient in Staphylococcus Aureus infections, reports from conservative sources indicate value in other coccus invasions. Most interesting has been its use in Streptococcus Viridans Bacterial Endocarditis. Given both intravenously and by mouth in sufficient dosage to produce a blood concentration of about 5 mgm., it has produced encouraging results. Present information about the drug is limited to a few facts. It is known to be less toxic than sulfanilamide or sulfapyridine and is better tolerated. However, once started, it must be continued until the end of treatment. Temporary withdrawal and subsequent readministration may cause a toxic reaction. Finally, it seems to have a greater tendency to form renal stones than the other two.

The drug is available to hospitals, free of charge, provided that they are willing to make complete laboratory and clinical reports of cases to the manufacturer.—*Conn. St. Med. J.*

TUBERCULOSIS PARAGRAPHS

Institutional care is always necessary at one time or another in treating tuberculosis, because of communicability. There is a considerable class which may be regarded as custodial cases, and there is need for domiciliary institutions where they can be cared for. When returned to the community results are often disastrous to them and their families. After-care and vocational rehabilitation are essential in restoring the patient to normal life.

Masur, J., Hosp. Management, Oct., 1939.

Patients subject to febrile reactions following air refills have little or no reaction following nitrogen or helium refills. The febrile reaction probably represents a flare-up of tuberculous pleuritis following the increased oxygen supply of the refill.

Pugsley, H. E., M. D., Amer. Rev. of Tuber., March, 1940.

There is no single absolutely reliable sign or symptom of activity in tuberculosis. Its determination must rest upon the most careful and thorough consideration of all of the general and local symptoms and signs, together with the results of the various laboratory and clinical studies.

Miller, James Alex., N. Y., State Jour. of Med., Dec., 1939.

The sputum-positive cases are a matter of grave concern. They insist upon being discharged to their families and the community; yet segregation is of first importance in controlling tuberculosis. By segregation did our ancestors rid the country of leprosy.

Welsh Nat'l. Mem. Assn. Report, Tubercle, Nov., 1939.

The American Academy of Pediatrics is sponsoring an educational campaign to create a demand for protective examinations on the part of employers and employees. According to the Academy approximately 2% of the teachers actively engaged in elementary and secondary schools in the United States suffer from tuberculosis.

The Survey, Jan., 1940.

The possibility of utilizing the general hospital as an effective medium for case-finding in tuberculosis has not been sufficiently explored. The fact that a person is admitted to a general hospital for a condition other than tuberculosis should never be accepted as a guarantee that such person does not have significant tuberculous disease. In a study of 4,853 adult admissions to 14 general hos-

pitals in New York State, 1.1% showed clinically significant tuberculosis and 0.6% unsuspected tuberculosis.

Plunkett, R. E., M. D. and Mikol, Edward X., Amer. Rev. of Tuber., Mar., 1940.

A disease which cannot be overlooked in a health report is tuberculosis; not only because it is still responsible for a great many unnecessary deaths but also because the tuberculosis death rate is considered a fairly reliable index of a community's economic, social and health status.

Bul. Milwaukee Health Dept.

TOXIC MANIFESTATIONS OF SULFAPYRIDINE

CONDITION	No. of Reporters	No. of Cases	No. of Patients	Per Cent
Nausea, vomiting	16	285	790	36
Nausea, vomiting, severe	3	33	250	12
Dizziness, restlessness	3	18	190	9
Cyanosis	4	15	187	8
Renal symptoms, etc.	2	4	75	6
Fever	2	5	110	5
Anemia, mild	8	16	354	4
Drug rashes	4	9	259	3
Anemia, severe, hemolytic	7	5	463	1
Neutropenia	10	5	680	1
Toxic hepatitis	3	3		
Deafness	1	1		

—*Med. Ann. D. of C.*

VENEREAL DISEASE QUACKERY

Venereal disease quackery is on the increase and today constitutes one of the major obstacles to the public health control of syphilis and gonorrhea, officers of the United States Public Health Service state in a nationwide N.B.C. broadcast.

Drugstore "back counter prescribing" has increased substantially during the past several years. Many different "patent remedies"—produced both locally and on a national scale—are on the market and sold in large volume. There is indication that the sales curve has been rising during the past six or eight years.

Large numbers of unethical practitioners—"men's specialists," herbalists, mail-order experts—are active, although quack advertising has apparently decreased in volume.

More persons evidently are going to drugstores and quacks for diagnosis and treatment of venereal disease than are going to reputable physicians. Exploitation of persons who are, or think they are, sick with gonorrhea or syphilis runs into tens of millions of dollars annually.

These trends were reported in a survey conducted by the American Social Hygiene Association in cooperation with the United States Public Health Service ("Illegal and Unethical Practices in the Diagnosis and Treatment of Syphilis and Gonorrhea," by Mary S. Edwards, statistician, and Paul M. Kinsie, chief of field study, of the American Social Hygiene Association, published in the January, 1940, issue of *Venereal Disease Information* of the Public Health Service).

Personal interviews by trained investigators posing as "friends" of presumably infected persons were carried on in 1,151 drugstores in 35 cities in 26 states. Sixty-two per cent of the drugstores visited diagnosed the diseases and offered to sell remedies for alleged syphilis or gonorrhea, especially the latter. Thirty-one per cent did not attempt to diagnose, but stocked, and were willing to sell, bottled remedies, especially when asked for them by name. About half of those who sold remedies urged the inquirer to see a doctor. Only 7 per cent of the entire number refused to diagnose or sell remedies.

About 30 different preparations were found to be generally available as remedies throughout the nation. Only 3 or 4 were recognized drugs, the remainder consisting of completely worthless mixtures as far as any effect on syphilis or gonorrhea was concerned. Mixtures made from such ingredients as boric acid, berberin, glycerin, etc., of only a few cents value are sold at prices ranging from $1.00 to $3.00 a bottle.—*N. Y. St. J. of Med.*

MISUSE OF SILVER PREPARATIONS

In these days of marked gold scarcity, we notice with dismay an over-abundance of silver, not in the pockets, but in the bottles of the medical profession and patients. Medically and therapeutically the use of silver and silver preparations should be regulated.

The silver derivatives are as popular with the general public as aspirin, and, lately, as the barbiturates, epinephrine and sulfanilamide. The public learns of their efficacy without their dangers and side actions. This is in a large measure due to the unnecessary and sometimes harmful diffusion of information to the layman through the medium of the daily press, radio and pseudo-scientific publications appealing to the general public. Sharing the guilt with the physician is the counter-prescribing and dispensing pharmacist who refills indefinitely a prescription designed to be used only over a short period of time.

The continued use of silver preparations leads to a cosmetic defect or blemish difficult to hide, argyrosis or argyria. We have seen a large number of cases of this disorder within the past six months, and think a word of warning is timely. These cases were all due to use of the silver derivatives, mainly argyrol, rather than to silver nitrate.

Argyrosis is a condition which, when present, causes embarrassment both to the patient and the physician. It is difficult to disguise or conceal the dirty gray or yellowish brown discoloration of cornea, conjunctiva, and surrounding structures. The individual tissue susceptibility to silver preparations varies widely, and a period of treatment that might cause on ill effects in one person will lead to permanent discoloration in another. Hence, caution should be the watchword in the use and prescribing of the silver derivatives. A rigid supervision can be exercised over all patients under active office treatment. But, if a silver preparation

is prescribed for home use, the patient should be warned its use will lead to argyrosis if continued indefinitely. The recipient of such a prescription should be warned also against recommending it to others for conditions superficially resembling his own.

A patient with a well-defined argyrosis is a walking testimonial to the inefficiency and carelessness of the treatment of Dr. X, and may leave the luckless practitioner in danger of a suit for malpractice. Rather than risk such an eventuality, it is better to exercise caution and supervision in the use of the silver derivatives.—*Wisc. Med. J.*

BRIEFS FROM SHATTUCK LECTURE

. . . Osler's *Textbook of Medicine*, when it first appeared in 1892, was like a breath of fresh air in a stagnant room. It was conceived by a man in his prime, who, unlike any medical textbook writer gone before, was profoundly versed in two indispensable elements: knowledge of pathology, and wisdom gained through a large experience with patients. And medicine has not changed in this regard. The really great teacher in the medical school or in the sickroom endeavoring to help the troubled family doctor is the man who knows pathology as well as clinical medicine.

. . . Suavages in his ten-volume work classifies diseases after the Linnean system of plant classification and makes about 2,500 varieties or species of diseases. Alibert reduces the number of families to 10, as follows: "gastroses, enteroses, chloroses, uroses, pniumonoses, angioses, leucoses, adenoses, hetmophecoses, blennoses." The first family, the "gastroses," is divided into 13 genera, which are again subdivided into species. Genera are designated by the following terms: "ployorexie, heterorexie, dysorexie, polydipsie, adipsie, lienterie, antemesie, gasteralgie, gastrite, aquirrogastrie, gastrobrosie, gastrocelie." The species in the first genus are: "Polyrexia bovina, canina, lupina," a classification based on analogy to the appetites of cattle, dog and wolf.

. . . This brings me to speak of the work of S. Weir Mitchell, probably the most distinguished physician of his time, whose observant eye saw a number of new diseases. In 1878 he published his famous essay on the red disease of the extremities, erythoromelalgia, a vasomotor neurosis. The disease is commonest in men and affects principally the legs, the chief symptoms being heat, redness and a throbbing pain. Mitchell apparently was the first to recognize eye-strain headache.

. . . A contribution of signal importance was made during the Civil War by the Philadelphia clinician, Jacob M. Da Costa. Da Costa was a native of St. Thomas, West Indies; he received his medical education in the Jefferson Medical College and in European universities. As professor in his alma mater and as physician to the Pennsylvania Hospital he became the revered teacher of thousands of students. He was a member of a great medical faculty, which included Samuel D. Gross, Joseph Pancoast and William W. Keen, three of the most famous surgeons in our history. Da Costa's classical essay to which I refer was entitled, "Observations on the Diseases of the Heart Noticed Among Soldiers, Particularly the Organic Diseases." In this essay he devoted a section to what he called the "irritable heart," which he later expanded in his textbook on medical diagnosis. The condition seemed to be more or less forgotten until the World War, when it became an important factor in the invalidism of men in the service. It was then called by the high sounding name of "neurocirculatory asthenia" in the American Army and "disordered action of the heart" in the British Army; but none of the modern descriptions excel that of Da Costa.

. . . It is not surprising that an important disease of the teeth should have been first recognized, at least carefully studied, by an American dentist. John M. Riggs was born in Seymour, Conn.; he studied medicine at Jefferson Medical College, and dentistry with Horace Wells, of Hartford, Conn. Riggs pulled a tooth for Wells, who had taken nitrous oxide gas, the first time that such an extraction was done under that anesthetic. Riggs gives an exhaustive description of inflammation of the gums and absorption of the gums and of the alveolar process. He is conscious of the fact that the disease is not new, but his description is complete and has not been surpassed. That is why the disease, pyorrhea alveolaris, is also called Riggs' disease.

. . . One hundred years ago a number of American physicians, chiefly from Boston and Philadelphia, with a few from Charleston, S. Car., went to Paris in order to sit at the feet of the most brilliant group of medical teachers ever gathered together in one place and at one time. Laennec, Broussais, Bayle, Chomel, Andral, Bretonneau, Rayer, Alibert and Piorry were creating a new era in medicine. The humoral doctrines, the futile speculations on the nature of disease that held sway in Paris toward the close of the eighteenth century, and which were destined to dominate the German school far into the next generation, were giving place to a clinico-pathological concept of disease based on a careful correlation of the findings at the bedside and the lesions observed in the mortuary.

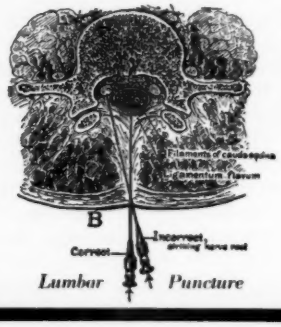
. . . Hyperinsulinism owes its identification to Seale Harris, of Birmingham, Ala., who first called attention to it in 1924. Hyperinsulinism leads to hypoglycemia, and this in turn produces symptoms comparable to those following an overdose of insulin. In some cases a tumor of the pancreas consisting of islet tissue has been found. Cures have been achieved by the removal of such tumors.

—*Shattuck Lecture, N. E. J. Med., Vol. 219, No. 16.*

TRYPARSAMIDE MERCK

in Neurosyphilis

TIMELY DIAGNOSIS



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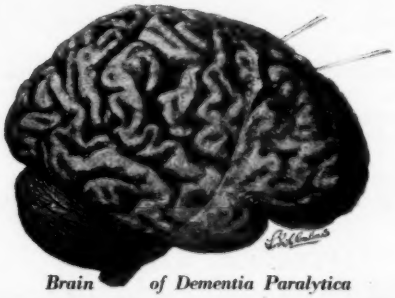
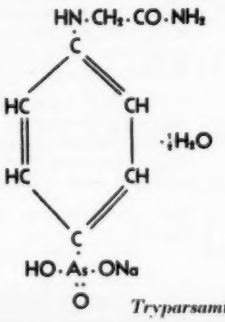
NEGLECTED DIAGNOSIS



Brain of Dementia Paralytica

OUTSTANDING THERAPY

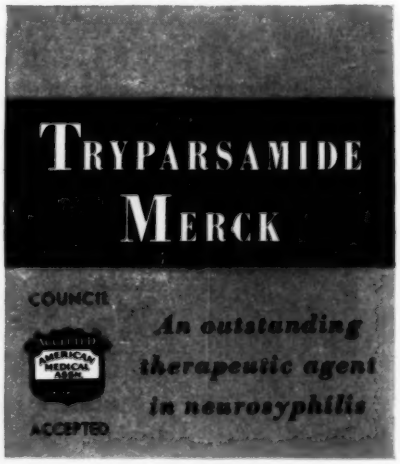


Tryparsamide Merck

Tryparsamide Merck has attained a prominent status in the therapy of neurosyphilis. In addition to its valuable therapeutic properties, it offers the obvious advantages, that it is easy to administer, is inexpensive, does not require hospitalization when used alone, is available to patients through the services of their own physicians, and does not interfere with the patient's daily routine of life.

* *(The Modern Treatment of Syphilis, by Joseph Earle Moore, M. D. Charles C. Thomas, Springfield, Ill., and Baltimore, Md., 1933.— By courtesy of author and publisher.)*

Literature on Request



MERCK & CO. Inc. *Manufacturing Chemists* RAHWAY, N. J.

DANGERS OF SHOCK THERAPY

As the initial enthusiasm about shock therapy has waned, more attention has been given to the dangers involved in such drastic procedure. There have been an increased number of reports on the destructive effects of insulin and Metrazol on brain tissue. In fact, the seriousness of this untoward possibility is not a negligible consideration in attempting to evaluate the soundness of shock therapy. Dislocations of joints, fractures of the long bones and crushing of vertebrae are admittedly disadvantages that accompany the Metrazol convulsions in a small percentage of cases. Proper nursing surveillance during treatment, and thorough examination before treatment in order to determine the presence or absence of bone disease, may in large part do away with such eventualities. Possible damage to the brain cells cannot, on the other hand, be guarded against with a comparable degree of certainty. A specific number of shock insults to the brain of one patient may result in no appreciable injury, while the same number of comas or convulsions may cause serious and irreparable damage to another. There are no reliable standards by which to judge how much treatment a patient may undergo without injury of serious proportions. Even though the patient may show clinical improvement or recovery following shock therapy, we do not know that future relapses may not be due, at least in part, to the traumatizing effect of the therapy itself.—*N. E. J. of Med.*

BOOK NOTES

VIRUS AND RICKETTSIAL DISEASES: a symposium held at Harvard school of Public Health, June 12-June 17, 1939. Pp. 907, including index. Cloth, $6.50. Cambridge, Mass. Harvard University Press. 1940.

This volume presents thirty-four papers presented at the Harvard Symposium of 1939. The data covered is not only a summary of the research done at the University, but is also a summary of the best information on the virus and rickettsial diseases. These are discussed first from the general viewpoint of epidemiology, properties, vectors and immunology of viruses. Then individual virus and rickettsial diseases are discussed in detail. Each paper presents a well rounded picture of the topic covered and is followed by an excellent bibliography. The volume places in one convenient place a wealth of information which would require considerable expenditure of time and effort to assemble from the literature. It is felt that it should excite the interest of bacteriologist, health officers, and physicians alike, especially those interested in the communicable diseases.

The format and typography of the book is excellent. There are 907 pages. However, there is no index but many of the papers are prefaced by a page reference outline. The volume can certainly

New Oil-Immersed Shockproof Bedside Unit

—This latest achievement by Keleket ideally fulfills the **modern** requirements for bedside work, as a full range auxiliary unit in the main laboratory, or as a mobile X-Ray apparatus in the Emergency Receiving Room.

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The physician who fails to appreciate that biological chemistry is of practical value in nearly every day medicine is indeed out of date. A medical student has training in chemistry and bio-chemistry partly before he has even started on his medical course and certainly early in his medical course. For this reason he is not deeply impressed with the significance of such pure sciences and the amount he may use them in his every day practice of medicine in later years.

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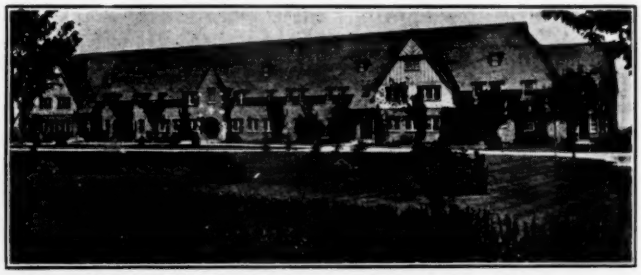

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